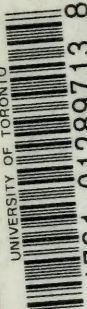


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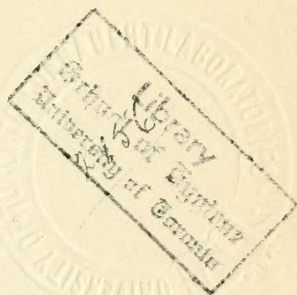
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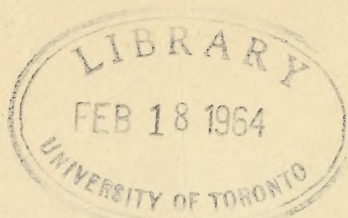
BY

Sir MALCOLM MORRIS, K.C.V.O.

Member of the Royal Commission on Venereal Diseases, and of the
Executive Committee of the National Council for Combating Venereal
Diseases; President of the Institute of Hygiene; Fellow of the Royal
Sanitary Institute, etc.



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PREFACE

WITH the creation of a Ministry of Health the Public Health Service of England and Wales enters upon a new era—an era, I doubt not, of enhanced efficiency and fruitfulness. It seemed to me that the occasion warranted an attempt to sketch in outline the evolution of our Public Health system from its small beginnings down to the present day, when the seedling has grown into a mighty, many-branched tree. Hence this little book.

I have not dealt separately with sanitary legislation, but its great landmarks are noted in connection with the growth and work of the Authorities, central and local, which have been charged with its administration. Incidentally, brief accounts are given of some of the great sanitarians and administrators by whom the system has been built up.

In the early chapters I have made free use of Sir John Simon's "English Sanitary Institutions," which with fullness of detail and philosophic insight records the history of English Public Health down to the year 1890. For permission to

Preface

draw upon its treasures I tender warmest thanks to Mr. John Murray, the publisher of the second edition, which appeared in 1897, and is still on sale. No one can claim to be well versed in this subject who has not read and re-read that classic of Public Health literature.

The present book is the introductory volume of a series which is occupied with the discussion of Public Health questions of special interest at the present time. The books will, it is believed, appeal to members of local authorities, district and other nurses, school teachers, members of Voluntary Aid Detachments, health visitors, and the great army of voluntary workers in the various fields of hygiene, and also, it is hoped, to the general reader.

M. M.

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THE STORY OF ENGLISH PUBLIC HEALTH

CHAPTER I

The "New Humanity"

THE Public Health system of this country is a creation of the last three-quarters of a century: it may be dated from the year 1848, when the Public Health Act which established the first Central Health Authority was passed. But to seek the origins of this great movement we must go much farther back. We may regard it as originating in two impulses. One, the scientific instinct, which prompts men to inquire into the causes of avoidable disease and the means of counteracting them; of this some account will be given in the next chapter. The other, the spirit which J. R. Green, in the concluding Books of his "History of the English People," variously calls the "new moral enthusiasm," the "new philanthropy," and the "new humanity." The last of these variants appears to me to be the most sufficient and the

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most richly suggestive, and I gladly borrow it as the title of the present chapter.

The new humanity made its first manifestation more than a century before the Public Health Act of 1848 was added to the statute-book. In 1729 John and Charles Wesley founded that society to promote religious study and conversation which, soon called derisively "The Methodists," presently effloresced into a pilgrimage of passion for the spiritual uplifting of the degraded masses. The religious revival began at Oxford, but the scene of its activities was not the sequestered groves of a university, but the "highways and hedges" of the great world. And it was never known as the "Oxford Movement," a title that was left available for the Anglican movement of the next century, which was one of its spiritual reactions. As the historian of the English people shows, it not only led to the creation of the great Methodist Societies in this country and in America, and the spiritual renaissance of the Church of England, but was the inspiration of an effort, which has never since ceased, "to remedy the guilt, the ignorance, the physical suffering, the social degradation of the profligate and the poor."

One fruit of this "passionate impulse of sympathy with the wronged and afflicted," to use another of Green's phrases, was the prison reform begun by John Howard. In the next chapter it will be seen how direct is the connection between

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this noble crusade and the Public Health movement. Towards the end of the century the same sympathy with the victims of an inhumane system flamed out in the indignant protests of Burke and Fox against the tyrannies and exactions of the East India Company, and moved Burke to urge with magnificent eloquence that India was no exception to the rule that political power established over any set of men, being "a derogation from the natural equality of mankind at large," must be "exercised ultimately for their benefit." About the same time William Tuke initiated the movement for the humane treatment of the insane, a reform which was continued in the next generation by Dr. John Conolly; and Clarkson and Wilberforce began their campaign against the grossest of all forms of oppression, a campaign which led to the passing of the Abolition Act of 1807, and finally, in 1833, to the voting by Parliament of a sum of twenty millions for the emancipation of the slaves in our colonies. While this crusade was in progress a beginning was made with the mitigation of our penal laws. At the dawn of the nineteenth century nearly three hundred offences were punishable with death. The Legislature showed no excessive eagerness to abate the brutality of its atrocious penal code. In 1808 Romilly was successful in saving pickpockets from the scaffold; but two years later it was still held to be in accordance with the fitness of things that shoplifters who

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had stolen five shillings' worth of goods should suffer the extreme penalty of the law. Progress, however, if halting, was sure, and of late years the least observant cannot but have noticed that even in murder, while the law itself makes no distinction between one case and another, it has been administered in a spirit of humanity which aims at distinguishing between calculated homicide and the taking of life under the spur of intolerable provocation or in a moment of frantic passion.

To the new humanity may also be traced the political movements which have led to the removal of one exclusive privilege after another, to the abolition of religious tests, and to the gradual extension of the franchise, until now it is shared by virtually all those who toil and spin, women as well as men. These reforms, and the social ameliorations that have followed in their train, are implicit in Jeremy Bentham's doctrine of "the greatest happiness of the greatest number," a formula which may be taken as the expression in unemotional terms of utility of the passion of pity for the common people which lay at the heart of the religious revival. In these political movements less lofty motives than compassion for the down-trodden and dispossessed have also been at work; but men are actuated by mixed motives in other spheres of activity than politics, and even in politics, in the main and in the long run, it is the higher motives that supply the driving power.

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So it has been also with the Public Health movement. Had it not been for a spirit of sympathy with the multitude, who, herded together in foul slums and toiling in crowded factories and workshops or in the bowels of the earth, are the chief sufferers from insanitation, how much more difficult would have been the task of building up our system of State Medicine! True, at every step it has been necessary to appeal to lower motives, such as the fear of epidemics, and considerations of economy. At first the stress laid upon the argument that in the long run sanitation spells economy to the ratepayer and the taxpayer was extreme; but even in the present enlightened age we can hardly afford to smile at the lack of hygienic enthusiasm of an earlier generation, for the same argument has to be diligently plied whenever any new development of Public Health is advocated. The man who is invited to tax himself for social purposes is apt to gaze at the future with the telescope reversed, and if no higher plea than economy had been urged, who can doubt that the Public Health system would have taken much more than three-quarters of a century to reach its present stage of evolution?

A salient illustration of what State Medicine owes to the spirit of humanity is to be found in the history of the legislation to check the abuses of industrialism, particularly in connection with the employment of child labour. This was essen-

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tially a victory of philanthropy over a short-sighted economy allied with a rigid and essentially irrational theory of freedom of contract. The chief pioneers of the reform were Robert Owen and Lord Shaftesbury, the one inspired by the enthusiasm of humanity, the other by the evangelical fervour which had animated the leaders of the religious revival. Robert Owen showed the better way not only by argument but by his own example as a cotton manufacturer in the days before he had developed his Socialistic theories. At a time when pauper children of tender years were swept into factories wholesale he would employ no child under the age of twelve, and instead of pressing the children of his operatives into his factory he established schools where they might be educated. In 1819 he was able to induce the Government to pass an Act regulating child labour in cotton factories; but nothing had been done for factory children in general when Lord Ashley (the future Earl of Shaftesbury) took up the question about the year 1830. The abuses to which the unrestrained employment of children had led were gross beyond description. Little mites who had not long learned to walk had to toil for it might be twelve or thirteen hours daily under the vilest sanitary conditions for a penny a day. To meet the demand for this cheap labour the Poor Law authorities of London would collect children from the metropolitan workhouses and send them in

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droves to Lancashire, and that county only ceased to import from the capital the children whom God had forgotten when the operatives, to eke out their miserable pittance of a shilling a day, offered their own flesh and blood as the victims. Lord Ashley's first Bill excited the gravest alarm among the manufacturers, and was dealt with so drastically that its introducer indignantly withdrew it. A Royal Commission was appointed, and, Lord Ashley's facts being inexpugnable, in 1833 the Government carried through a Bill forbidding the employment of children under nine and restricting the hours of those under sixteen, as will be explained later.

The opposition offered to factory legislation in the name of freedom of contract by M'Culloch and Nassau Senior, Cobden and Bright, is a glaring instance of the length to which humane men of high character will go in support of an economic theory. They were unable to comprehend, in Mr. Sidney Webb's eloquent words, that "to set the employer free to make exactly what arrangements he chose for his work, and to conclude exactly what bargains he chose with his individual operatives, inevitably meant, because of his superiority in economic strength, the reduction of wages. . . to a point . . . which experience proved to be even below what was physiologically necessary for subsistence; the exaction of hours of daily labour far in excess of what was compatible with healthy

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existence; the harnessing to the mill of the pregnant woman, of the nursing mother, of the immature youth, even of the child; the subjection of them all, in the attempt to reduce expenses to a minimum, to brutalising and insanitary conditions, and even to incessant risk of accident, for lack of the necessary expensive precautions; and actually, when it was found to facilitate the manufacture, to the deliberate use of deleterious substances and the deliberate vitiation of the atmosphere by artificial heat and moisture to the ruin of the operatives' health." * The fight was long and strenuous, but the appeal to the humanity of the nation won triumph after triumph; and as this country was the first to frame factory laws, so it still on the whole keeps the lead of the world in this form of legislation.

The student of the evolution of our system of State Medicine will find ample evidence for a conviction that has been brought home to me by the share I have been called upon to take in certain of its developments during my professional life—the conviction that the movement owes more to voluntary than to official effort. Before the Public Health Act of 1848 was passed a Health of Towns Association was actively at work disseminating the knowledge which had been brought before Parliament as to the crying need for sanitary legislation, and all through the intervening years it has

* "Cambridge Modern History," xiii. 745.

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been the pressure of such bands of voluntary workers, animated mainly by the spirit of humanity, that has impelled Governments to action. Whole pages might be filled with a mere list of health associations, but I will refer to two only, with which I have been personally associated, and these may be taken as typical instances. They are the National Association for the Prevention of Consumption, which, founded in 1898 to stir up the medical profession and the public to adopt effective measures against tuberculosis, is still active in that cause, and the National Council for Combating Venereal Diseases, which in 1916 prevailed upon the Government then in office to adopt the system recommended in the Report of the Royal Commission issued in that year, and has ever since been carrying on a vigorous and extraordinarily successful propaganda, of which something more will be said later.

In the next chapter but one it will be shown that the man who has the greatest right to be considered the founder of our State Medicine is Edwin Chadwick, who had conceived an enthusiasm for sanitation long before he became a Government official, and was so ardent in the cause that he was prematurely relegated to private life. Factory legislation, as we have seen, was initiated by two such extremely unofficial persons as Robert Owen and Lord Shaftesbury, the latter of whom might have attained to high office had he not preferred

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to devote his considerable gifts to the service of the poor, the defenceless and the outcast. And the army sanitation which all but worked miracles during the Great War received its great impetus from the enthusiasm, the resolute will, the insatiable energy, and the organising genius of Florence Nightingale.

That Public Health, so far as initiation is concerned, should owe little to Governments is not surprising. Their tendency has always been to let sleeping dogs—that is, vested interests—lie. Their business, as hitherto they have understood it, is not to initiate reform, but reluctantly to accept it when unofficial action has made it necessary “to do something.” Nor, so far as sanitary reform is concerned, can it be ascribed to any enthusiasm among the people generally, but rather to the irritating insistence of sanitarians, a small but pertinacious minority of the community—consisting partly of medical men, and partly of members of local health authorities and others whose enlightened interest in public affairs has induced a due sense of the importance of sanitation—who make it their business to give publicity to the facts, to demand official investigation, and by persistent agitation to arouse the better instincts of the public. The British people are certainly not wanting in humanity; but they are not quick-witted, they tend to an indolent, good-humoured tolerance of abuses to which they have been long

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accustomed, and much breath and ink have to be expended before they come to see things as they are. But at last the scales fall from their eyes, conscience begins to prick, and the Government of the day knows that the time has come to add a plank to its platform.

What has been said about the attitude of Governments to sanitary reform applies also to Government Departments. Who that has had anything to do with them does not know that *vis inertiae* is at least as powerful a force in Government offices as in the physical universe? When allowance is made for the number and lack of co-ordination of the Central Health Authorities, it must be allowed that they have done their routine work with creditable efficiency, and that in emergencies, as when unfamiliar diseases appear in our midst, they have acted with promptitude and vigour. But how often have they taken new departures except under the stimulation of unofficial sanitarians? Factory legislation, it is true, owes a great deal to impulses from the inspectorial staff of the Home Office, as we shall see in a later chapter; and the Medical Service of the Board of Education, under the vigorous direction of Sir George Newman, has developed so rapidly and in so many directions since it began work, in 1908, as to form a notable exception to the rule. But Sir George Newman would be the last to underrate the importance of voluntary co-

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operation. In his Annual Report for 1916—and he returns to the subject in the Report for 1917—handsome acknowledgment is made of the successful work done for School Hygiene by Voluntary Children's Care Committees and similar organisations, and the definite co-ordination of all such bodies is held up as an ideal, to the end that for the children in our elementary schools there may be from birth to adolescence an unbroken chain of medical supervision.

Sir Arthur Newsholme, again, while Medical Officer of the Local Government Board, pointed out how necessary it is to have behind the Public Health system a sympathetic and enlightened public opinion. In his Annual Report for 1917-18 he insists that, whatever improvements might be effected in administrative machinery by the creation of a Ministry of Health, in the last resort everything will still depend upon public opinion. That is undoubtedly true. Sanitarians up and down the land, never so numerous as now, are not so innocent as to suppose that a Health Ministry may be left to go its own way, impelled by nothing but its own sense of public duty. Were that their view, I am persuaded that the change, strenuously as I have advocated it, would be a calamity. Enthusiasts for sanitation are the chosen instruments of this phase of the new humanity, and the time will never come when it will cease to be necessary for them to press its

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claims upon the official classes on the one hand and upon the mass of the community on the other hand. But, so far from being less energetic under the new régime than before, they will have every encouragement to redouble their efforts, for the new Ministry will be able to give direction and co-ordination to their activities, and thus the value of their work will be immensely enhanced.

CHAPTER II

Pioneers

THE eighteenth and the early years of the nineteenth century witnessed pioneering work which, though it did not go beyond the beggarly elements of Public Health, was none the less of permanent value. The earliest of the Fathers of Preventive Medicine, as Sir John Simon calls them in his "English Sanitary Institutions," was Richard Mead (1673-1754), Physician to St. Thomas's Hospital, and the undisputed leader of the medical profession in this country. Mead was a classical scholar, and a friend of most of the learned men of the day, and Dr. Johnson said of him that he "lived more in the broad sunlight of life than almost any man"—a tribute that it is not over-fanciful, perhaps, to regard as a preliminary version of Landor's saying concerning himself, that he had "warmed both hands at the fire of life."

In the second decade of the eighteenth century England was threatened with another visitation of the Plague which some fifty years before had reduced the population of the country by, it is believed, ninety thousand. The Government

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therefore begged Dr. Mead to advise precautionary measures, and in 1720 he published his "Short Discourse concerning Pestilential Contagion," which in its first year went through seven editions. In prescribing strict quarantine against infected countries, and the isolation of any town in which the pestilence might appear, he was only the exponent of the common usage of those times; but in dealing with the management of infected dwellings he broke new ground. The practice had been to shut up an infected house, with all its inmates, the sound as well as the sick, for at least a month after all the family had died or recovered. This he condemned as both futile and cruel. He pointed out that it savoured of "punishment rather than of a compassionate care," and that it offered householders every inducement to practise concealment. In place of these inhumane and misdirected measures he counselled that when the disease appeared in a town a Council of Health should be formed, charged with the duty of removing the sick some three or four miles outside the boundaries and of cleansing and removing those who had been in contact with them, all this to be done, be it noted, at the public expense. Here in rough outline we may see the rudiments of our system of providing, out of the public funds, isolation hospitals, and places of refuge for what are now called "contacts."

Dr. Mead also insisted, by no means super-

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fluously, upon the necessity for keeping streets and houses clean, "for as nastiness is a great source of infection, so cleanliness is the greatest preservative." In the disinfecting efficacy of fumigations he had a very limited belief, but he made a partial reservation in favour of "the smoke of sulphur," because it "abounds with an acid spirit which is found by experience to be very penetrating." Sulphur is still used for the disinfection of rooms; but some authorities on sanitation think little more of such fumigations than did Dr. Mead. In some American cities they have been abandoned, and Whitelegge and Newman, in their well-known manual,* do not claim more for them than that they are preliminaries to more thorough measures of disinfection. One further recommendation of Dr. Mead's may be cited—that when epidemics were raging "all unnecessary assemblies" should be avoided—a precaution which was urged by responsible authorities during the influenza epidemic of 1918-19.

In the next generation Sir John Pringle (1707-82), as Physician-General to the British Forces, and physician to military hospitals, had opportunities, which his scientific acquirements enabled him to turn to good account, of laying the foundations of our system of military hygiene. In 1752 he published his classical work on "Diseases of the Army," in which he brought into relief the part

* "Hygiene and Public Health," 13th Edit. 1917.

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played by filth and foul air in the propagation of such diseases as dysentery, gangrene, and typhus fever in camps and hospitals. This remained the standard work on military hygiene for many years, holding in the eighteenth century the same position of authority as in the next century was occupied by the "Practical Hygiene" of Dr. Edmund Parkes, first published in 1864.*

In 1753, the year after Pringle's work on military medicine was published, there appeared a Treatise on Scurvy from the pen of Dr. James Lind (1716-94), Physician to Haslar Hospital, which may be regarded as the foundation-stone of naval hygiene. It was the first work on the subject written by a medical man who had had experience of a disease that had been one of the historic plagues of armies and was still ravaging our seamen. In the last naval war before the book saw the light more men perished from scurvy than were slain in engagements with the French and Spanish ships. This work was followed by others dealing with typhus and enteric fever and other diseases prevalent among sailors. Following in Pringle's steps, Lind taught that hospital fever and jail fever and ship fever were only so many different names for what is now always called typhus, and the means he recommended for check-

* Dr. Parkes, in his day the greatest authority on civil as well as military hygiene, is commemorated by the Parkes Museum, now incorporated with the Royal Sanitary Institute.

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ing its dissemination in ships and hospitals are virtually the same as those that have speeded its disappearance from the general community. As to scurvy, it had been believed more or less for a couple of hundred years that lime juice was a prophylactic and corrective, but it was Lind who first proclaimed the fact with an authority derived from medical experience. His advice was that sailors should be plentifully supplied with oranges, lemons, onions, etc., and, when these could not be got, with lime juice. It was not, however, until more than forty years afterwards, in 1795, that the Admiralty, under the prompting of another Father of naval hygiene, Sir Gilbert Blane (1749-1834), ordered that the Navy should be provided with lime juice, a deliberate way of doing things which is noted by Herbert Spencer, in his "Sociology," as an illustration of administrative torpor. Another service rendered by Lind to those who go down to the sea in ships was his discovery that fresh water can be distilled from salt water, and the indication of a simple means of thus rendering ships independent of the shore for their water supply.

Maritime hygiene owes much also to a contemporary of Lind's who was a great navigator by vocation and incidentally a very successful sanitarian. Taught by bitter experience as commander of the *Endeavour* in the three years' expedition to the Pacific to observe the transit of Venus, when

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he lost thirty men out of a complement of eighty-five from scurvy and other diseases, Captain Cook (1728-79), in his second expedition, when he sailed round the globe, adopted such effectual sanitary measures that during three years only one man died out of 118. In 1776 he communicated to the Royal Society a paper describing the nature of his precautions, which included insistence upon the strictest cleanliness, the avoidance of unnecessary exposure and of too protracted watches, ventilation of the ship, laying in supplies of fresh meat and vegetables wherever possible, and supplementing these with a sufficient stock of oranges and lemons, sugar, etc. Later in the same year the Society's Copley medal was awarded to him, though not in person, for by this time he had sailed on the voyage from which he was never to return.

With Captain Cook as a pioneer of naval hygiene may be bracketed his contemporary, John Howard (1726-90), as the pioneer of prison hygiene. With one of his aims, the abolition of the vicious system by which jailers, instead of being salaried officials, lived by the fees exacted from their prisoners, we have no concern in these pages. His other aim, the reform of prisons in a sanitary sense, is very much to our present purpose. It is not necessary to recall in detail the dismal story of what prisons were like in those days; enough to say that they were so many

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seminaries of loathsome disease. In them typhus fever and other diseases encouraged by filth and overcrowding and lack of ventilation were, so to speak, endemic, and from them fatal infections were constantly overflowing into courts of justice, barracks, fleets and hospitals.

Howard was one with whom reform began at home. Before constituting himself the unpaid inspector of prisons, first of this nation, then in turn of wellnigh all the nations of the Continent, he pulled down and rebuilt every cottage on his Bedfordshire estate, and, in the words of Dr. Thomas Guy, gradually transformed the whole village "from damp squalor to bright, wholesome cheerfulness, from sickliness to healthiness." When Dr. Guy wrote, in 1882, the cottages were as sound and strong as when they were built, more than a century before. Howard travelled more than fifty thousand miles in fulfilment of his self-imposed mission. He first gave evidence as to the condition of English prisons in 1774, before the House of Commons, and the House awarded him its thanks, and—what he no doubt appreciated much more—at once passed Acts to remove the abuses he had exposed. So began a movement which was continued until our prisons became, in a sanitary if not in a reformatory sense, model institutions.

Towards the end of the eighteenth century a new departure in Preventive Medicine was taken

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in connection with smallpox. In the second decade of that century the practice of variolation, long in vogue in the Orient, began to find favour in this country as the result of a letter written from Constantinople by Lady Mary Wortley Montagu. So rife was smallpox, and so great the dread of it, that people preferred to have it voluntarily in a mitigated form by inoculation from a mild case rather than run the risk of contracting it involuntarily in a more severe form. Arm-to-arm inoculation was the usual mode, and in the great majority of cases only a local reaction followed, or if an attack of a general character developed it was insignificant.

As all the world knows, the credit of replacing variolation with vaccination belongs mainly to Edward Jenner, a medical man who, without any remarkable scientific aptitudes, had an observant and inquiring mind, great pertinacity in following up a clue and pressing his views upon the community, and a due sense of his own merits. Before coming to London, where he studied under the great John Hunter, he was struck with the remark of a young countrywoman that she could not take smallpox because she had had cowpox—a pustular disease of the udders of cows, known medically as vaccinia, which sometimes infects the hands of milkers. He kept the subject in mind, and in due time found enough evidence to justify him in making an experiment on a human subject.

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Having, in 1796, inoculated a boy with cowpox, a few weeks later he inoculated him with the virus of smallpox, as others had done, and found that a condition of immunity to the more serious disease had been set up. He observed also that such of his patients as were suffering or had suffered from cowpox did not contract smallpox when specially exposed to the contagion by nursing or even sleeping with patients. The conclusion seemed to be irresistible that cowpox protected against smallpox, and he began an agitation to substitute vaccination for variolation. He published his results in 1798, and vaccination won its way so swiftly that in 1802 he received from Parliament a grant of £10,000. In the following year he came to London and took a house in Hertford Street, Mayfair—now marked by a commemorative tablet—on a ten years' lease at a high rent in the expectation of establishing a lucrative practice. His hopes disappointed, he went back to his countryside patients in Gloucestershire, and in 1806 Parliament awarded him a further grant of £20,000. Jenner certainly was not without honour in his own generation, nor did he go without due pecuniary reward.

One other name must be cited among the pioneers of Preventive Medicine. In 1831 a work was published embodying the results of a study of industrial diseases prosecuted by a Leeds surgeon, C. Turner Thackrah. It was an exten-

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sive and a diligent research, covering as many as 250 branches of industry, and it is noteworthy as the first systematic attempt made in this country to draw out the connection between work and disease, and to suggest that it behoved the State to take preventive measures against avoidable industrial diseases.

CHAPTER III

The Nation's First Health Charter

WHEN Queen Victoria ascended the throne, in 1837, the country was without even the rudiments of any system of Public Health by which such sanitary knowledge as had been acquired could be translated into action. There was on the statute-book an Act establishing an ineffectual system of quarantine, and a sum of £2,000 was annually voted for the purposes of a National Vaccine Board to combat smallpox; but with those exceptions the law and the Government had no concern with the nation's health. There were, it is true, local Commissions of Sewers—an institution of great antiquity; but their business was to make provision against floods; they had no responsibility for the removal of filth, and the town sewers often allowed more liquid sewage to escape by leakage than they conveyed to the out-fall, so that, as Simon says, they were "among the worst nuisances to the neighbourhoods which they pretended to relieve." And those nuisances were multitudinous and widespread and formidable. The householder may have enjoyed far less

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political liberty than he held himself entitled to, but in the creation of nuisances his rights were virtually absolute. Almost every house rejoiced in its cesspool, and in towns it was, as a rule, snugly ensconced in the basement, where its noisome exhalations were least exposed to adulteration with the pure air of heaven.

The true begetter of the nation's first Health Charter, the Public Health Act of 1848, was Edwin Chadwick. For him I have claimed the distinction of being the founder of our Public Health organisation. Born in Manchester in 1800, he acquired in early life a reputation as an able publicist, and became one of Jeremy Bentham's intimate friends. He conceived what he termed the "sanitary idea" in 1828, in preparing an article on Life Assurance for the *Westminster Review*, and his enthusiasm for sanitation remained with him to the end of his long and fruitful life. In his mind the "sanitary idea," if I may condense it into a single phrase, connoted a wholesome environment, and so firm was his faith in it that he thought the medical profession "not very likely to last"; he looked forward to the time when, as Sir William Collins wittily says, "doctors would be unable to live, yet perhaps unable to die."* In 1832 he was appointed an Assistant-Commissioner, and in 1833 a Commissioner of Inquiry into the working of the

* "The Chadwick School of Thought," *Journal of the Royal Sanitary Institute*, xxxiv. 318.

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Poor Laws. In the latter year, too, he served on a Royal Commission to investigate the treatment of children in factories, and in that capacity had the daring to propose that employers should be held liable for accidents to their workmen—a principle that had to wait until the year 1898 for its full acceptance. The Report of the Poor Law Inquiry Commission led to the passing of the Poor Law Amendment Act of 1834, and he was made Secretary to the new Poor Law Commission, formed to carry out that Act.

With such a Secretary the new Commissioners ran little risk of adopting a policy of masterly inactivity. In 1838 they addressed a letter to Lord John Russell, the Home Secretary, indicting preventable disease as a fertile cause of destitution and death, and urging immediate legislation to obviate it. They had already, no doubt at Chadwick's suggestion, instructed three medical men to conduct investigations into the fever prevalent in London, and they submitted to the Home Secretary two Reports setting out the results. One was by Dr. Neil Arnott and Dr. Phillips Kay (afterwards Sir J. P. Kay-Shuttleworth), the other by Dr. Southwood Smith, who had been for fourteen years Physician to the London Fever Hospital.*

*Like Chadwick, Dr. Southwood Smith was a disciple of Jeremy Bentham's, and it was he who carried out that philosopher's direction that his body should be dissected in the interests of Science, and who delivered a funeral address over the remains.

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These documents painted in vivid colours the insanitary conditions prevalent in the poorer regions of the metropolis. In a supplementary statement, issued a little later, Dr. Southwood Smith showed that while street and sanitary improvements had been carried out in the districts inhabited by the wealthier classes, nothing whatever had been done for the poorer quarters. "Such is the filthy, close, and crowded state of the houses," he proceeded, "and the poisonous condition of the localities . . . from the total want of drainage, and the masses of putrefying matters of all sorts which are allowed to remain and accumulate indefinitely, that during the last year, in several of the parishes, both relieving officers and medical men lost their lives." He added that out of 77,000 indoor and outdoor paupers, 14,000 had been attacked with fever, and nearly 1,300 had died.

The Reports were discussed in both Houses of Parliament, and in 1839 the House of Lords, on the motion of the Bishop of London, Dr. Blomfield, who was inspired by Chadwick, voted an Address praying that the Poor Law Commissioners might be instructed to collect similar information with regard to other parts of England and Wales. The Commissioners at once entered upon the investigation, which was extended so as to include Scotland. Their Reports, issued in 1842, included a "General Report on the Sanitary Condition of the Labouring Population of Great

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Britain," avowedly written by Chadwick himself. It was an elaborate and a powerful description of the shockingly insanitary conditions—atmospheric impurities produced by decomposing animal and vegetable substances, damp and filth, close and overcrowded dwellings—under which the masses of the people were living in every part of the kingdom—in rural villages, in small towns, and in larger towns. It pointed out that the formation of habits of cleanliness was obstructed by defective supplies of water; that the annual loss of life from diseases induced by filth and bad ventilation was greater than that in any wars in which the country had engaged in modern times; that the physique of the younger population suffered from the noxious physical conditions under which they were bred; that the effect upon the adult population was to make them "short-lived, improvident, reckless, and intemperate"; and that the defective town cleansing fostered habits of "the most abject degradation." As to the remedies, the Report instanced drainage, the removal of all refuse of habitations, streets, and roads, and the improvement of water supplies, as the primary necessities, and recommended that refuse should be removed by running water instead of in the solid form by hand labour and cartage, and that the permanent charges should be spread over "periods coincident with the benefits," and should not fall entirely upon those who "had only short interests in the benefits."

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This rousing work was widely circulated, and made a profound impression upon Sir Robert Peel's Government. But there were no precedents for such measures as those to which it pointed, and many a long year was to pass before it was clearly seen that it is the business of statesmen to create, and not merely to follow, precedents. So a Royal Commission was appointed to explore the whole question, with the Duke of Buccleuch as Chairman, and with Richard Owen and Lyon Playfair—names still familiar to our ears—as two of its members. It was energetically shepherded by Chadwick, who afterwards told Simon that he was the habitual assistant of the Chairman and the Secretary, that he "precognised" all the witnesses, and that he drafted the first Report, issued in 1844, and the recommendations of the second Report, which followed in the next year. It was by no means a delaying or a shelving Commission. Its Reports provided the amplest confirmation of the findings of the Poor Law Commissioners as to the gross defects in drainage, water supply, paving and cleansing, ventilation, etc., and advised that the Crown should have control of all general measures of sanitation, that all such matters should be placed under one administrative body, that the local authorities should be armed with additional powers but that their operations should be subject to central control, while the Crown should have power to compel them to action in case of default.

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The attempt made to give effect to these far-reaching recommendations was not immediately successful, but 'in 1848 was passed the Public Health Act, establishing a new Government Department, the General Board of Health, as the "one administrative body" contemplated by the Buccleuch Commission, invested with power to form local sanitary districts under Local Boards of Health, the power to be exercised compulsorily where the death-rate of a district was as high as 23 per thousand, in other cases on petition from the ratepayers. From the operation of the Act the metropolis was excluded, but a Bill was passed during the Session providing for the appointment of a Metropolitan Commission of Sewers to replace the separate Sewers Commissions then existing, and immediately afterwards the City Sewers Act was passed in the interests of "the City," the "one square mile" over which the Lord Mayor has jurisdiction.

The year 1848 also witnessed the passing of a measure complementary to the Public Health Act, the Nuisances Removal and Diseases Prevention Act, giving powers for the summary abatement of nuisances injurious to health. This was a measure of great importance. By the common law the only remedy for any act or omission endangering health was an action for damages or an indictment for nuisance, proceedings which were not precisely summary. Now, justices of the peace, on

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complaint of local authorities specially authorised for the purpose, were empowered promptly to suppress such nuisances as were at that time recognised. *

At first the General Board of Health consisted of an ex-officio member, the First Commissioner of Works, and two members appointed by the Crown, one paid, the other unpaid. Neither of the three was a medical man. The time had not quite come to recognise the medical profession as entitled to any direct voice in health administration. Within two years, however, a permanent medical member, in the person of Dr. Southwood Smith, was added to the Board under a Burials Act then passed, the Metropolitan Interments Act, 1850. Coming in such a way, this concession naturally provoked ironical comment. "Who would have thought," asked Dr. Rumsey, in the Preface to his "Essays in State Medicine," published a few years later, "that in the last decade of advancing civilisation . . . the whimsical experiment should have been actually tried of appointing three non-medical authorities—two Lords and a Barrister—to preserve the health of the living; and then, after a year or two of doubtful success, calling in a Physician to bury the dead?"

The two lords were Lord Morpeth (afterwards Earl of Carlisle), who had carried the Public Health Bill through the House of Commons, and the future Lord Shaftesbury; the barrister was

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Edwin Chadwick, who was the paid member, while Lord Morpeth sat by virtue of his office as First Commissioner of Works. The functions of the Board were to sanction the schemes promoted by local authorities under the Public Health Act of 1848, and to regulate any measures which might be necessary, during the prevalence of epidemics, under the Nuisances Removal and Diseases Prevention Act of the same year.

The beginning of its career synchronised with the second visitation of cholera which this country experienced. The first cholera epidemic had taken place in 1831-33, when some 31,000 deaths had occurred in certain parts of Great Britain, and 21,000 in Ireland. The King in Council had ordered a Form of Prayer against the disease, and a consultative board had been appointed to promulgate certain temporary Rules and Regulations which did little more than enjoin cleanliness and ventilation. The epidemic was of some service in drawing attention to the danger arising out of the neglect of public and domestic sanitation, but nothing more definite came of it. The second epidemic (1848-49), in which 54,000 persons perished in England alone, provided much occupation for the new Board, and yielded to Dr. John Snow the important deduction that the disease was propagated by means of intestinal discharges, a theory for which he found substantial confirmation in a third visitation that occurred in 1853-54.

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By the end of 1853 the Board had applied the Public Health Act to 182 places having an aggregate population of more than two millions, had framed by-laws regulating the health activities of local authorities, and had issued a valuable series of Instructional Minutes for the guidance of such authorities, besides the action it had taken with a view to the control of cholera. Further, in 1850 and 1851 it had issued Reports dealing with the urgent question of burials in towns. It recommended that what are loosely called intramural interments—that is interments in cities and towns—should be prohibited. It also had the boldness to propound a highly centralised system for the disposal of the dead. The Government was to be the nation's Burial Authority, was to have power to contract for the carrying out of funerals, to provide mortuaries and appoint medical officers of health in connection with them, and to regulate undertakers' and all other funeral charges. In London the work was to be done presumably by the Board itself; in country towns by local bodies acting under the Board's supervision. The Government, of course, declined the invitation to take up so vast and so socialistic a scheme; still, something came of the Board's grapple with the question, for in 1852 intramural interments were prohibited in London by an Act which in the following year was extended to the provinces, and was afterwards further extended to Scotland and Ireland.

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The Board also investigated another big question, that of the water supply of London. It roundly condemned the supply on the grounds of insufficiency, impurity, intermittency, and costliness, and, making another daring excursion into the sphere of centralisation, advised that the water companies should be superseded by a Public Authority which should also be charged with the management of the drainage of the metropolis. The implication of the Report appears to be that all these functions, including even the construction of the apparatus of drainage and water supply in houses, should devolve upon itself. For such an innovation the times were not precisely ripe. The Government was anxious to do something, but was a great deal more anxious not to do much. It therefore set a Select Committee to work, and in 1852 a Bill was passed which professed to be a compromise between the water companies and the public, but which left things very much as they were. It was not until fifty years later, in 1902, that the water companies were superseded by the Metropolitan Water Board.

That the General Board of Health should have provoked a good deal of antagonism is not surprising. Local autonomy was a principle of government of which the roots had struck deep in the nation's life. Long and bitter had been the struggle by which the towns had won their civic freedom, and the idea of a central authority which

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should at once stimulate local authorities to action and curb them when their activity was ill directed was regarded not merely with distrust but with detestation. The current conception of a local authority was that of a body with power to do as it pleased, even if it were pleased to do foolish things, or to do nothing. The Board excited opposition also by its interference with the sacred prerogatives of "vested interests," a potent entity which figures in Sir John Simon's polished diction as "commercial enterprise." Nor did the Board's medical and engineering theories escape challenge—not altogether without reason, perhaps, so far as the medical theories were concerned; while the civil engineers cherished a grievance because of the liberty of private practice allowed to the Board's engineering inspectors. The opposition from these various quarters was focused upon Chadwick, and we may pay him the compliment of saying that in this there was no injustice. Much as the Board owed to Lord Ashley and other members, it was from its creator that its inspiration and energy and daring were drawn.

The attacks came to a head in 1854. The Public Health Act constituting the Board was subject to renewal at the end of five years. That period being about to end, the Government sought to buy off opposition by placing the Board under the control of a Secretary of State. It is significant of the real merits of the controversy that Lord

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Palmerston, in commending this proposal to Parliament, should have recognised that the Board was in conflict with "the fair and legitimate interests of many very intelligent and very active men"—such interests, for example, as the lucrative business of obtaining local Acts, the profit-making of water companies, and the emoluments of local engineers. Lord John Russell, now Prime Minister, even admitted that Chadwick might not have "observed the most conciliatory tone possible" towards the many persons who were pecuniarily interested in opposing the Board's schemes. The upshot of the debate was that the proposal to renew the Board's lease of life was defeated. The Government at once introduced a new Bill making some amendments in the Public Health Act of 1848 and continuing it subject to annual renewal, and reconstituting the General Board of Health as an authority consisting of certain Ministers with a paid President, who, in fact, was himself the Board.

Chadwick was not forgiven. Parliament considered that the nation had no further need of the services of one who could be drastic without even being polite, and he was retired on a pension of £1,000 a year, which it is consoling to know that he drew for five-and-thirty years. He threw himself into Army sanitation, sanitary engineering, agricultural drainage, the provision of open spaces, and tropical hygiene, and acquired a

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European reputation as a sanitarian. In his ninetyeth year he received from Queen Victoria a K.C.B., an honour which he enjoyed for one year !

It may be that if he had been other than he was—if he had not been of so bold and eager a temperament that it was impossible for him to make haste slowly—Sir Edwin Chadwick might have rendered still more effective service to the cause that possessed his mind and soul. The question is not easy of determination, nor, if it were, would its discussion be of practical interest. What is indisputable is that he laid the nation under the greatest obligation by forcing sanitary reform upon its attention early in his career, and that after the close of his official life he continued to render similar service of inestimable value.

The first President of the reconstituted General Board of Health was Sir Benjamin Hall, who, by the way, gave a bit of his name to "Big Ben" of Westminster. Though he came into the Public Health movement an avowed opponent of the Board's centralising tendencies, he did some things which demand at least passing notice. Having to cope with the third cholera epidemic, which was raging at this time, he formed a temporary Medical Council which, for about a year, until the emergency ceased, guided him with its advice, and in 1855 he added to the Public Health Act, as then renewed, a clause empowering the Board to nominate a Medical Council from time

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to time, as well as to appoint a salaried Medical Officer. He also reorganised the local government of the metropolis by setting up the Metropolitan Board of Works, and constituting, in the separate parishes and districts, vestries and district boards which were required to appoint special sanitary officers. The General Board of Health, virtually reduced, as we have seen, to a membership of one, breathed its last in 1858, most of its duties being taken over by the Privy Council, while the others were transferred to the Home Office.

CHAPTER IV

The Era of Inquiry and Education

THE fate of the General Board of Health made it only too clear that the country, including the Legislature, badly needed sanitary education. It might have been supposed that the mere exposure of the insanitary horrors that have been hinted at rather than described in these pages would have sufficed to convince the nation of the need for drastic reform. But in these days it is hardly possible to catch any due sense of the gross sanitary ignorance which prevailed at that time. The laws of sanitation had been so long and were so habitually violated, and the failure to realise the connection between such violations and the disease that avenged them was so general and so complete, that a long process of education, supplemented by a course of opportune epidemics, was an indispensable condition of sanitary progress.

Fortunately the hour had brought the man. In the year which witnessed the creation of the General Board of Health the City of London chose

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as its first Medical Officer of Health* John Simon, one of the ablest and most accomplished medical men of that generation, a surgeon and pathologist, with a tincture of philosophy and something more than a tincture of reasoned humanitarianism. In that post he did conspicuously good service, organising a thorough system of sanitary inspection and superintendence. Before long, to quote his own words, "the sanitary circumstances of tens of thousands of the poorer population were sensibly improved by the introduction of new drainage and water supply, by the enforcement of periodical house cleaning, by far stricter practice of scavenging, and by general mitigation of nuisances. Not least, the abomination of cesspools had come to an end. At a time when cesspools were still almost universal in the metropolis, and while, in the mansions of the West End, they were regarded as equally sacred with the wine cellars, they had been abolished for rich and poor throughout all the square mile of the City."

While thus making of the City a pattern for the rest of the metropolis, Simon was also, by his Annual Reports to the City Commission of Sewers, playing a leading part in the sanitary education of the whole country. It is impossible to read

* The first town to appoint a Medical Officer of Health was Liverpool, which did itself that honour in 1847, and in choosing Dr. William Henry Duncan made a scarcely less fortunate choice than did the City of London.

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these Reports without a feeling of admiration for his insight and prescience. Thus we find him enunciating the great principle that "the supervision of the public health . . . ought to be the consolidated and sole charge of some one Minister, who, sitting in Parliament, and being in statutory relations with local authorities possessing all the required sanitary powers, should be open to challenge in respect of every public matter concerning health, and should be responsible not only for the enforcement of existing laws . . . but likewise for their progress from time to time as the growth of knowledge would make desirable." Simon's hope at that time was that the General Board of Health might be remodelled into a shape that would enable it to realise his ideal. That hope was doomed to speedy extinction, and the ideal of a single Central Health Authority presided over by a member of the Government was almost lost sight of until three-quarters of a century later it reappeared under the name of a Ministry of Health with virtually universal acceptance.

While still Medical Officer of Health for the City of London, Simon was called upon by the Government to take part in inquiries into epidemics of cholera. So obvious was his competence that his preferment to the Medical Officership of the General Board of Health when that addition was made to the Board's staff by Sir Benjamin Hall in 1855 was almost a foregone conclusion,

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and when three years later the Board was succeeded by the Lords of the Privy Council he was appointed their Medical Officer.

At first Simon's position under the Privy Council was precarious in the highest degree. Sanitary reform was so unpopular a cause that the Public Health Act of 1858, charging the Privy Council with duties to be presently enumerated, was passed for a single year only. During the year Lord Derby's Government actually decided to let the Medical Officership lapse, but almost immediately changed its mind, owing, as Simon believed, to the enlightened influence of the Prince Consort. Just at this time Lord Palmerston returned to power, and before the year 1859 ended Robert Lowe (afterwards Lord Sherbrooke) carried a Bill, though only by a narrow majority, perpetuating the office and also giving permanence to the provisions of the Public Health Act of 1858. Since its birth the Public Health Service had had more than its average share of maladies, and had narrowly escaped swelling the tables of infant mortality. Now it entered upon the stage of adolescence, and henceforward its career was to be one of continuous if irregular growth and development.

Under the Act of 1858 the Privy Council became responsible for the public vaccination system of England and Wales, and when epidemics of smallpox or any other disease were rife it was its

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duty to issue Orders and Regulations to check their progress. It also had duties to fulfil in connection with the organisation of the medical profession—duties of which something will be said later. But with these exceptions the Public Health functions of the Privy Council were those of Inquiry and Report, and it was by these means that it rendered its most important service to State Medicine. Simon was ably seconded by Inspectors whom the Privy Council engaged, at first temporarily for occasional work, and afterwards permanently. One of these officials, Dr. George Buchanan, appointed a permanent inspector in 1869, had been since 1857 Medical Officer of Health for the St. Giles District, which at the beginning of his connection with it was one of the most insanitary regions in the metropolis. It was a Report of his to the Privy Council in 1866 that brought out the direct association that obtains between pulmonary tuberculosis and dampness of the soil. When the Privy Council had done its work as the Central Sanitary Authority, he was transferred to the Local Government Board, and we shall meet him again in the next chapter, and with him another eminent sanitarian, Dr. Thorne-Thorne, who also began his Public Health career under the Privy Council.

The sixth and seventh decades of the nineteenth century provided the Medical Department of the Privy Council with ample opportunities for the

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study of epidemics. About the time when it began work a violent recrudescence of diphtheria, a disease of which that generation had had little experience, excited much alarm in the country, and was not stayed until seventeen counties had been involved. In 1862-3 the cotton famine was associated with outbreaks of typhus fever. In 1865 there were fears that cerebro-spinal meningitis, in these days popularly called "spotted fever," might spread from the North of Europe to the British Isles, where it was as yet unknown. Soon afterwards cholera once more showed its horrid front. In 1866 there were some fifteen deaths from yellow fever among the inhabitants of Swansea. All these epidemics formed the subjects of inquiry. Investigations were also made into enteric fever, scarlet fever, and other common infections as they presented themselves. Other inquiries of the Medical Department related to the distribution of diarrhœa and pulmonary disease and malaria, and a beginning was made of the study of infant mortality, a subject in which there is still much to be learnt and yet more to be done. At the same time investigations of a more general character relating to food supply, habitations, physical surroundings and industries, as affecting the nation's health, were diligently prosecuted, and much valuable information was collected.

These facts, and the inferences to which they pointed, were employed by Simon in his Annual

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Reports as the basis of appeals for the extension of sanitary law. He showed that the Nuisances Removal Act provided quite inadequate powers of summary procedure, and that even such powers as it conferred were insufficiently used, so that "filth-nuisances on a monstrous scale were to be seen in all directions continuing under the eyes and noses of authorities appointed to remove them, and that filth diseases in cruel and scandalous amount were being inflicted on helpless myriads of the population." He pointed out that the poor, both in town and in country, were atrociously ill-lodged, that unwholesome and obscene overcrowding was common, and that tenement houses, often inhabited by as many families as there were rooms, were hotbeds of disease. He insisted also upon the need for legislation with a view to isolation and disinfection, and the penalisation of the wanton carelessness, almost universally practised, by which infectious diseases were spread. Another lesson he enforced was the need for measures to prevent industrial diseases—measures to ensure that workshops should be ventilated and not overcrowded, that the atmosphere in them should be kept free from dust irritating to the respiratory organs, and that precautions should be taken against absorption of the poisons used in certain manufactures. Yet another point to which he directed attention was the effect upon infant mortality of the employment of women in factories and on the land. He laid

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stress upon the fact that the mortality in some districts was three times as great as in the standard districts, while in some of them infants were subjected to treatment which he stigmatised as "almost murderous."

One effect of these illuminating and conscience-stirring documents was the erection of the next great landmark in Public Health legislation after the Public Health Act of 1848—the Sanitary Act of 1866, first introduced by Mr. Bruce (afterwards Lord Aberdare). In the confusion caused by a political crisis the Bill was almost lost, but a severe epidemic of cholera in London supplied a timely stimulus which led the new Government, Lord Derby's third Administration, to adopt the measure and press it through Parliament. Under this Act, as Simon says, "the grammar of common sanitary legislation acquired the novel virtue of an imperative mood." It now became the "duty" of the local authorities to provide for the sanitary inspection of their districts and to suppress nuisances, and where the sewerage or the water supply was insufficient or nuisances were not removed the Act gave the Secretary of State and the Court of Queen's Bench power to exercise compulsion. It also conferred powers against domestic overcrowding, and, reinforcing provisions introduced into Factory and Workshop Acts at this time, forbade overcrowding and uncleanness in industrial buildings and stipulated for their proper

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ventilation, as well as for the strict observance of precautionary regulations in specially dangerous industries. Further, it enabled local authorities to disinfect or destroy infected things and to provide isolation hospitals, and subjected to penalties individual acts which promoted the dissemination of infectious disease.

Another subject which engaged public attention about this time and was then to a great extent lost sight of has acquired special interest in these days. To check the spread of venereal disease it was urged by some that legislation should be introduced to establish what Simon delicately terms "a systematic sanitary superintendence" of prostitutes. To anyone who knows what manner of man he was, it is no surprise that he should have felt himself compelled to report against such schemes.

Two of Simon's Annual Reports are memorable as sketching the outlines of the present system of protecting our ports against cholera and other infectious diseases. At this time, under the Quarantine Act of 1825, consolidating and modifying earlier Acts, ships arriving from ports considered to be infected, even if no cases of infectious disease had occurred, were liable to detention, and if cases actually occurred on ship the detention of the vessel, with the crew and any passengers, was indefinitely prolonged. A system involving such an extreme degree of inconvenience and hardship and pecuniary loss naturally provoked severe

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criticism. It had been discussed by the General Board of Health in 1849 and 1852, but with an abundant lack of enlightenment, though the conclusion reached was sound enough. The Board gravely propounded the doctrine that epidemic diseases have their "primary and essential condition" in an "epidemic atmosphere" which may extend for thousands of square miles but which affects only such localities as are insanitary. It was argued therefore that quarantine could give only a sense of false security, and the Board recommended that the system should be abolished root and branch and that safety should be sought in local sanitary improvements alone.

Simon's condemnation of the system was based upon no such false ground. In a Memorandum issued in 1865 he put the case against it on the true ground of the impossibility of enforcing restrictions so inconvenient and involving such serious interruption to commerce. "Were the country," he pointed out, "ever so ready to endure these extreme restrictions, without which the whole thing is fruitless and absurd, the means for imposing them do not exist. To extemporise a *cordon sanitaire* is simply and totally impossible, and no partial quarantine can be relied on for national purposes." His plan was to trust to the same preventive methods for foreign as for native infections. Every local sanitary authority, whether port or inland, should be empowered to defend its district against

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infectious disease, whether endemic or exotic, and such powers as were employed against the former should be our sole resource against the latter. As we shall see in a later chapter, this plan was in essence adopted within a few years.

Note must also be taken of another innovation which we owe to Simon. A skilled pathologist, he appreciated the importance of exploring the processes as well as the causes of disease, well assured that the acquisition of such knowledge, even if prevention and treatment were not the immediate objects in view, could not fail to be of practical utility. At his suggestion laboratory investigations were made for the Medical Department by Dr. Burdon-Sanderson, Dr. Klein and Dr. Thudichum, and in 1870, when the nation's pursestrings were in the hands of Robert Lowe, a true friend of medical and sanitary science, an annual subsidy of £2,000 was granted for the extension of these researches. That later Chancellors of the Exchequer should have been so slow to improve upon this lead is but one of many evidences of the lack of interest in science which prevails in official circles.

By the year 1869 the country was ripe for another sanitary inquiry by a Royal Commission. The hostility which had given so violent a check to sanitary administration in 1858 had been to a great extent conciliated, a process in which Simon's Reports, so happily blending moderation with

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decisiveness, and so carefully avoiding extraneous matters which might have excited prejudice, had played a chief part. It was now recognised that the time had come for a consolidation of sanitary law and for the introduction of order and consistency into sanitary procedure. Save here and there, no one local authority was charged with the power to prevent and remove nuisances. Public Health powers were divided between Town Councils and Boards of Guardians, and in ancient parishes the Home Office had created a third Nuisance Authority, so that, as Simon says, in some rural parishes "the privies were under one Authority and the pigsties under another." And there was a similar lack of unity in the Central Health Administration. In 1868 a Joint Committee of the British Medical and Social Science Associations memorialised the Government to appoint a Royal Commission to explore the whole subject, and in the following year a Commission, usually cited as the Royal Sanitary Commission, was nominated to report upon the operation of sanitary law in England and Wales (except the metropolis), and upon the authorities, both central and local, by which the laws were administered. It was a strong Commission, and it made a thorough investigation. It recommended a consolidation of sanitary law, which should be made "uniform, universal and imperative throughout the kingdom." It advised the constitution of a Central Authority

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to direct the administration of the laws relating not only to Public Health but also to the relief of the poor, hitherto administered by the Poor Law Board. The Royal Commissioners regarded it as essential that to the new Central Authority should be transferred the Medical and Veterinary Departments of the Privy Council, the Local Government Act Office (a branch of the Home Office), the Registrar-General's Office, and all the general sanitary powers and duties at that time exercised by the Privy Council, the Home Office, and the Board of Trade. As to local authorities, their view was that all sanitary powers should be concentrated in one responsible body in each locality, this body to have in its service at least one Medical Officer of Health and at least one Inspector of Nuisances. It further recommended that all local districts should be inspected by medical and engineering experts appointed by the Central Authority, so that any defects in sanitary and Poor Law administration might be brought to light and remedied.

It must be noted, with regard to the Central Health Administration, that the Royal Commission was debarred by the terms of its appointment from considering those branches of Public Health law which were operated by other than local authorities, such as the regulation of industrial employments and of the processes of chemical manufacture, the control of lunatic asylums, and

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the constitution and discipline of the medical and pharmaceutical professions. Simon was quick to see that these exclusions left in existence anomalies which would in time lead to further anomalies. His view was that all the central responsibilities relating to Public Health and all those relating to local government should, without exception, be consolidated and placed under one Minister, and that in every affair in which both sanitary and local government questions were concerned the respective divisions of his staff should act in concert. A Department that should absorb all local government and Public Health administration is certainly open to the objection that in course of time it would grow to unmanageable proportions; but Simon's forecast of the consequences of excluding certain branches of Public Health work from the consideration of the problem has been abundantly justified. By the second decade of the present century health administration had become hardly less chaotic than it was when the Royal Commission of 1869-71 issued its Report.

The chief sequel to the Report was the Local Government Board Act of 1871, creating as the Central Health Authority the Local Government Board, which superseded the Poor Law Board and the Local Government Act Office, took over most of the Public Health responsibilities of the Privy Council, and became formally responsible for the Registrar-General's Department. In 1872 was

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passed an Act amending the constitution and powers of the local authorities. The consolidation of sanitary laws recommended by the Royal Commissioners was effected mainly by the Public Health Act of 1875, which is declared by Mr. Percy Ashley to be "the greatest sanitary code ever enacted in any country," * and a number of other consolidating and amending measures, referring to the sale of food and drugs, the pollution of rivers, artisans' dwellings, burials, the regulation of factories and workshops, etc., were added to the statute-book during the next few years.

Of the era of inquiry and education with which this chapter has been concerned, Simon was the leading figure, as Chadwick was of the earlier phase of Public Health evolution. If Simon was fortunate in the men who co-operated with him as Medical Inspectors, it was his discernment that selected them, and, as we have seen, it was he who urged upon the nation the reforms of which their investigations revealed the need. The end of the era was not the termination of his career as a Public Health official. How he fared under the Local Government Board will appear from the next chapter.

* "Local and Central Government," p. 226.

CHAPTER V

The Local Government Board

THE first President of the Local Government Board was Mr. James Stansfeld, who, as President of the Poor Law Board, had piloted the Act of 1871 through the House of Commons. From that Board the new Authority derived its President and Parliamentary Secretary, its permanent secretariat, and its system of provincial agencies. In relation to the interests of Public Health, it was, as Simon says, "as if the Act had ordered that the old Poor Law Board, subject only to such conditions of consultation and reference as itself might impose upon itself, should be the Central Sanitary Authority of England." The Royal Sanitary Commission had suggested that the Minister to take charge of the combined Public Health and Poor Law administration should have separate secretariats. In that case the Medical Department of the Privy Council and the Secretary and Engineer-Inspectors of the Local Government Act Office would naturally have formed the Health Division of the new Board, and the two might have co-operated as they had formerly done under the

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General Board of Health. Instead of this, Mr. Stansfeld provided himself with a single secretariat drawn exclusively from the Poor Law Board, and afterwards the transferred inspectors of the Board were appointed the "general inspectors" of the new Board. As to the transferred officers of the Privy Council and the Local Government Act Office, they were to be used only for special consultation and special local inquiries.

To Simon, with his clear vision of what the nation's sanitary interests required, this was a profound disappointment. That his mind was biased by any consideration for his own dignity no one who knew him personally, as it was my privilege to do, or who is familiar with his writings, can for a moment suspect, and his discussion of the subject in "English Sanitary Institutions" is absolutely free of any note of personal grievance. But in the interests of Public Health he had hoped and expected that the independent powers of the Medical Officer of the Privy Council and of the technical experts of the Local Government Act Office would be extended under the new régime. "The sanitary branch of the public service," as he says with unanswerable force, "had peculiarly grown out of the exercise of technical observation and contrivance, and would of necessity in the future be dependent on the same faculties for its chief means of usefulness to the public; but, although the officers who during many years had

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been the amassers of sanitary experience, and had till then represented it in administration, had been transferred to the new department, no clear provision had been made for their having influence in it." True, they could be consulted; but no one knew better than he that much more than mere "consultability," to use his own happy expression, was necessary if medical and engineering experts were to exercise their due influence in the new system.

The record of the Poor Law Board's medical activities was not such as to warrant any confident hope that a magnified Poor Law Board would start on the best lines its new work of organising local government and Public Health administration. The Board had administered the Poor Laws since 1847, when it superseded the Poor Law Commissioners appointed under the Poor Law Amendment Act of 1834—the Act which brought Poor Law Unions and Boards of Guardians into existence. In the discharge of its medical responsibilities it had exhibited a plentiful lack of efficiency. Although it had had to do so largely with affairs of medical technic, for a long time it had had no medical men on its staff. It had proceeded on the assumption that for the Board's ordinary medical business the common sense of secretaries and other non-medical officials was sufficient: when some occasion out of the ordinary arose, special medical assistance could be requisitioned. This

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curious faith in the omniscience of the secretarial mind had had disastrous results upon the health interests of the poor, and at last, not long before the Board received its apotheosis and became the Local Government Board, a Medical Officer was appointed; but even then it was not expected that he should give his superiors general advice, still less that he should display initiative. Like a child brought up under the old method, he was only to speak when spoken to.

Starting with a personnel imbued with such principles as these, and under a presidency informed by no large conception of the nation's sanitary needs, it is not surprising that the Local Government Board should have taken wrong turnings and missed golden opportunities. The conditions laid down for the appointment of Medical Officers of Health by the fifteen or sixteen hundred local authorities whose constitution and powers were determined by the Act of 1872 resulted, in the majority of instances, in appointments for areas so small that the medical men concerned had to be allowed to continue in private practice. Not more satisfactory was the system of supervision of the local authorities which the Board instituted. It was an essentially non-medical system, of which the agents were the general inspectors. Such medical inspection as was carried out was quite casual, and indeed could not have been otherwise without that enlargement of the medical staff which

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the wisdom of Mr. Stansfeld deemed a superfluity. Presently some slight concessions were made to the Medical Department. It was allowed, for instance, where matters primarily sanitary were concerned, to take part in conferences with local authorities, and the administrative officers of the Board now showed a greater disposition to avail themselves of its counsels; but the means allowed to the Department to acquire the intimate knowledge upon which to base its advice were altogether inadequate, and it was still debarred from conducting correspondence with the local authorities which required its guidance. That is to say, the Department, when asked to do so, could make suggestions as to the advice the Board should give, but was not allowed to write even to the local Medical Officers of Health. Simon neatly illustrates the absurdity of this system by pointing to the difficulties that would arise if a "London consultant, having to suggest to his professional brother in the country some different method of treatment for the squire's asthma or the lady's megrim, were not in direct correspondence with his fellow practitioner, but must have his medical suggestions adopted by the family solicitor and expressed to the distant doctor in the form of a lawyer's letter."

Mr. Stansfeld held the Presidency just long enough to give the Board a bad start, and then, in 1874, made way for Mr. George Sclater-Booth

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(afterwards Lord Basing), who retained the post for six years. He it was who promoted the consolidating Public Health Act of 1875 and the other great sanitary measures which were the sequelæ of the report of the Royal Sanitary Commission. But he, no more than his predecessor, appreciated the importance of giving the Medical Department the measure of independence and the power of initiative which the situation called for, and two years after his accession to the Presidency Simon retired on a special allowance. His transfer to the Local Government Board had left him with some duties to perform for the Privy Council, but now his connection with that body also was severed, and he was free to devote himself to the service of his profession and to the literary pursuits for which he had so decided a bent. Early in his career he had given much time to the study of Art and Oriental languages and metaphysics, and throughout his life he was on terms of intimacy with most of the leading men of letters of the day, and especially with Ruskin, whose "dear brother John" he was. He was President of the Royal College of Surgeons in 1878-9, held other important administrative positions in the profession, was Vice-President of the Royal Society in 1879-80, was an honoured member of many other learned societies, and had showered upon him high University distinctions. But it was not until 1887, when Queen Victoria's Jubilee was celebrated,

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that the State recognised his services by the bestowal of a K.C.B. In 1890 appeared the work to which I have acknowledged my indebtedness in the Preface to these pages.* Its author's distinguished and variously useful life ended in 1904.

Sir John Simon's successor at the Local Government Board was Dr. Seaton, who, like him, had been transferred from the Medical Department of the Privy Council; but in less than four years his health broke down. His place was taken by Dr. George Buchanan, who, as we saw in Chapter IV., had long before made his mark as a sanitarian by his Reports as one of the Privy Council's inspectors. Five years after he became Medical Officer to the Board the nation had another of those cholera scares which have worked together for its good. At this time Sir Charles Dilke was President, and at his direction the Medical Department undertook first a preliminary and then a more systematic cholera survey, which occupied the greater part of the years 1884-6, and comprised a critical examination of the arrangements at our ports for dealing with infectious diseases from abroad, and also an inquiry as to the sanitary arrangements in as many as five hundred sanitary districts, equal to one-third of the whole country. Thus the Medical Department, its staff of medical inspectors temporarily strengthened, had at last,

* "English Sanitary Institutions," by Sir John Simon, K.C.B. Second edition, 1897 (John Murray).

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an opportunity of exercising for a specific purpose the skilled inspection of the sanitary work of the local authorities which ought to have been from the first one of its regular duties.

Dr. Buchanan's chief assistants in carrying out this memorable Survey were Dr. Ballard and Dr. Blaxall, both of whom testified to the need they found to exist of applying stimulus to many of the local authorities, and to the influence in the direction of efficiency which the medical inspectors were able to exert. One significant point was brought out by Dr. Ballard—the encouragement which personal interviews with the inspectors had afforded to many Medical Officers of Health who had been striving to do their best “under multi-form difficulties, discouragements and impediments.” This is precisely the help which the Board could have rendered to local sanitarians all along had it not deliberately closed to itself this avenue of usefulness. Instead of the survey being continued until the whole country was covered, it was stopped towards the end of 1886, and, as Simon says, the previous system of “how not to do it” was tranquilly resumed.

The medical staff, however, in spite of the limitations prescribed to it, has been able to do very considerable things for the advance of sanitary science. In 1874 Mr. Netten Radcliffe, another of the former medical inspectors of the Privy Council, prepared a valuable Report on

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Filth Diseases and their Prevention. In 1875 Dr. Ballard initiated a systematic study of effluvium diseases associated with various industries, and embodied the results in Reports which take high rank in official sanitary literature. Five years later he began an investigation extending over a number of years into the nature and localising conditions of epidemic diarrhoea, and in 1887 propounded the provisional hypothesis that the disease is due to a specific micro-organism which resides ordinarily in the superficial layers of the earth and is able to infect the lower levels of the air. His acuteness enabled him to discover that this summer disease is only indirectly related to a high air-temperature, through the temperature of the soil. In 1880, soon after he became Medical Officer, Dr. Buchanan had set Dr. Thorne-Thorne and Dr. W. H. Power to work collating the experiences of isolation hospitals and disinfection establishments, besides preparing a Memorandum on the sanitary rules to be observed in the establishment of public cemeteries. In the same year Dr. Power got upon the track of the important fact that the contagion of smallpox can infect the air, independently of personal intercourse, to a distance of at least a mile, and that within that limit the intensity of the infection diminishes as the distance from the focus increases. Later he made the discovery, also of great importance, that cows as well as human beings are susceptible to scarlet

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fever, which is communicable from either to the other. In 1881 Dr. Stevens, who twenty years before, under the Privy Council, had taken part in a thorough survey of public vaccination, made a further comprehensive inquiry into the question. In 1889 was published an elaborate Report by Dr. F. W. Barry on the same subject apropos of the great epidemic of smallpox in the two preceding years. Another Report, embodying an elaborate study of diphtheria by Dr. George B. Longstaff, and analysing the statistics of the twenty-six years preceding 1880, is of historic interest as suggesting that a connection exists between human diphtheria and a similar disease in certain domestic animals, and that diphtheria may be conveyed, as it is now known to be, by contaminated milk supplies. Much other valuable work has been done by members of the Board's medical staff in connection with infectious diseases, as well as in hygiene, during the present century. Thus Dr. Bruce Low has diligently studied the epidemiology of plague, cholera, yellow fever, and smallpox, and reports have also been issued upon tuberculosis, cerebro-spinal fever, and encephalitis lethargica, the mysterious disease of which the first cases were mistaken for botulism—poisoning with sausages and other meat foods.

The laboratory investigations begun under the Privy Council by Dr. (afterwards Sir John) Burdon-Sanderson, Dr. Klein, Dr. Thudichum, and others, were continued under the Local Govern-

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ment Board, and these, too, have been followed by many others, the more recent ones under the direction of Dr. Eastwood. The researches entrusted to Dr. Thudichum were in the field of organic chemistry; those committed to Dr. Burdon-Sanderson and Dr. Klein had reference, at first, to infective processes in general, and afterwards were directed mainly to questions of infection and disinfection and prevention. Another member of this band of workers was Dr. Wooldridge, whose unexpected death after a few days' illness in 1889 cut short an original and very promising research in the prophylaxis of anthrax. Dr. Klein's work carried him into the front rank of bacteriologists. Sir John Burdon-Sanderson, in 1869, in an article on the Intimate Pathology of Contagion issued as an Appendix to a Report to the Privy Council, had anticipated the epoch-making discovery of the microbic origin of infectious diseases generally, and it was he who initiated the experimental study of such diseases in this country. In 1870 he gave up hospital work and private practice in order to concentrate upon scientific research, and he was not long in winning more than national fame in experimental physiology and pathology.

Dr. Buchanan held the Medical Officership to the Board with credit, and more than credit, for thirteen years. His retirement, in 1892, when he was knighted, was made the occasion of a subscription in his honour which enabled him to endow

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a Gold Medal to be granted triennially by the Royal Society for distinguished service in sanitary science. His own contributions to that science were particularly valuable in connection with typhus fever and cholera.

Sir George Buchanan found a fitting successor in Dr. Thorne-Thorne, like him in having served under the Privy Council, and also in having high scientific attainments. The proof that typhoid fever is one of the water-borne diseases was first supplied by him, and he showed much energy in pressing upon the local authorities the Isolation Hospitals Act, which was passed the year after he became Medical Officer. He received a K.C.B. in 1897, and died in 1899, giving place to Dr. (afterwards Sir) William Power, whose researches into the dissemination of smallpox and scarlet fever have been mentioned earlier in this chapter. When the next appointment had to be made, in 1908, the Board, for the first time, went outside its own staff for its Medical Officer and chose Dr. (now Sir Arthur) Newsholme, who had won his sanitarian spurs as Medical Officer of Health for Brighton. Sir William Power had interested himself in the question of infant mortality, about which the nation was beginning to feel uncomfortable, as it had, and still has, very good reason to feel; and his successor at once grappled vigorously with this grave problem and made investigations of which the results are recorded in three elaborate

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Reports that rank among the most valuable documents ever issued by the Board. It fell to him, too, to make arrangements for the notification and the provision of further facilities for the treatment of tuberculosis, and to devise the medical measures which, in 1916, the Board pressed upon the local authorities for carrying out the administrative recommendations of the Royal Commission on Venereal Diseases (*see* p. 138). He also had much to do with the organisation of maternity and child welfare activities, of which the scope has been greatly extended by the Act of 1918. During the War he and other members of the medical staff co-operated with the Army medical authorities in the work of keeping the home camps healthy, and in other ways, and in 1919 the Board issued special regulations for the control and treatment of malaria and other war diseases, as well as of pneumonia, both primary and influenzal. He retired early in that year, and was the last Medical Officer of the Board, the office of Principal Medical Officer, with the position and responsibilities of a Secretary of the Board, being then created for Sir George Newman, in view of the formation of a Ministry of Health to absorb the Local Government Board and other Central Health Authorities, as will be related in the last chapter. The measured review by Sir Arthur Newsholme of the progress of Public Health since 1871, which appears in his Supplement to the Board's Annual Report for

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1917-18, may be regarded as the swansong of the Board.

The constitution and functions of the Board must now, with all possible brevity, be described. As a Board it was one of those official fictions in which legislators and administrators appear to take a strange delight. Theoretically, it consisted of the President and sundry other high Ministers of State. These other Ministers it is not necessary to particularise, for they were as innocent of responsibility for its proceedings as the corresponding members of the Mikado's Cabinet. The Board, in fact, never met. The work was done by the President and the Parliamentary Secretary, the latter a Member of Parliament. The control which it exercised over Public Health, so far from being concentrated in one Department, was dispersed among five distinct divisions, each with its own staff and its own permanent head, who was the channel of communication with the Permanent Secretary and the President, and was never an expert sanitarian. Multifarious, as everyone knows, were the Board's sanitary responsibilities. Sewerage and drainage and scavenging, infectious diseases, isolation hospitals and Poor Law infirmaries, public vaccination, the water supply and the pollution of rivers, food and drugs, alkali works, canal boats, slaughter-houses, baths and wash-houses, housing and town planning, cemeteries and crematoria, the notification of births, infant

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mortality, maternity and child welfare, the appointment by local authorities of Medical Officers of Health, Sanitary Inspectors, Public Analysts, Public Vaccinators, and Health Visitors—these are only some of the Public Health matters with which the Board had to do.

Among its more important duties were some of a sub-legislative kind, for it could extend the scope of many Acts of Parliament which confer powers or impose responsibilities upon local authorities. It might also constitute, or dissolve, or combine port sanitary authorities, modify the areas and powers of most other local authorities, and repeal many local Acts of Parliament. The by-laws and many of the more important proceedings of the local authorities were subject to its approval. It was vested with appellate jurisdiction as between the local authorities and landlords and other persons who might be aggrieved by their action, or as between one local authority and another, or as between, say, the Medical Officer of Health of a rural district and the Medical Officer of Health of the county. In many instances, before it could take action, it was required to possess itself of all necessary information by inspection or inquiry; and where local authorities failed in their duty and were irresponsive to remonstrance it could either apply for a mandamus or have the work done and charge the local authority with the cost. The Board also exercised functions of an advisory

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character. It was constantly issuing circulars and memoranda explaining new departures in legislation or in administration, and in this way it afforded much valuable guidance to local authorities.*

Of the medical administration of the Board under the Poor Laws, little that is favourable can be said. The Board's Public Health and Poor Law medical activities always remained absolutely independent of each other. The areas served by the Medical Officers of Health of the Town Councils are scarcely ever coincident with those of the District Medical Officers of the Boards of Guardians. Not only is there no co-operation between the two sets of authorities, but they pursue conflicting policies, the chief object of the Boards of Guardians being to deter persons from seeking medical relief until driven to do so by serious illness and by dire destitution, while the Town Councils are engaging more and more in work that comes into the category of Preventive Medicine. "Even to the average District Medical Officer it does not seem so important to prevent the spread of disease, or its recurrence in the individual patients, as to relieve their present troubles. . . . The provision of Poor Law Dispensaries, and the consequent abandonment of half the domiciliary

* For a classified enumeration of the Board's duties and powers, *see* Bannington's "Public Health Administration," chap. xxv.

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visiting, even implies the discouragement of that consideration of home environment and personal habits which not only helps diagnosis, but would also justify the giving of hygienic advice of preventive character. Even the Poor Law infirmary—not allowed to receive students, with a staff too busily occupied for research, and seldom provided with a laboratory—can think only of discharging its patients as quickly as possible, without convalescent home or sanatorium to which to send them, and without an outdoor visiting staff to keep them under observation and give them the hygienic advice as to home management for lack of which the phthisical patient will soon be back in the infirmary again. *In short, from beginning to the end of a Poor Law expenditure of over £4,000,000 annually upon the sick, there is no thought of promoting medical science or medical education, practically no idea of preventing the spread of disease, and little consideration even of how to prevent its recurrence in the individual.**

As to the general administration of the Poor Laws, although, as is pointed out in Ashley's "Local and Central Government," it is as highly centralised a service as can be found anywhere in Western Europe, the Local Government Board being able, by the Orders it issued, to regulate every conceivable detail of the work, it is almost

* "The State and the Doctor," by Sidney and Beatrice Webb, pp. 127-8. The italics are mine.

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universally regarded as a failure. The Poor Law Commission which was appointed in 1905 and reported in 1909 made recommendations which were drastic when they were not revolutionary. The Majority Report called upon the Local Government Board "to assume a more direct position of guidance and initiative in regard to the local authorities." It recommended that the Boards of Guardians should be abolished, that the unit of administration should be enlarged to the county or county borough, and that a Public Assistance Authority should be constituted in each of the new areas and empowered to appoint Public Assistance Committees in rural and urban districts to carry out the work of poor relief, while medical relief should be committed to Medical Assistance Committees appointed by the Public Assistance Authorities. The Minority Report went much further. It recommended the scrapping of the whole Poor Law system, and the distribution of the work of Public Assistance, both medical and general, among the various committees of the County and County Borough Councils. That nothing was done to give effect to the recommendations of either Report up to the outbreak of the War is to be explained by the preoccupation of the country with other great social as well as with burning political questions.

To visit the whole of the responsibility for a radically defective system of medical relief of the

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poor upon the Local Government Board, as distinct from the Legislature, might not be fair. But in view of the fact that it had not thought fit to subject the thousands of District Medical Officers to supervision or inspection, that it had never instructed its Poor Law Medical Inspectors to prepare an Annual Report, and that it published next to no statistical information concerning patients treated in the Poor Law infirmaries, having ignored a recommendation to that effect made by the Committee on Physical Deterioration in 1904, the Board cannot be acquitted of the perfunctoriness which characterised the medical work of the old Poor Law Board. That so ineffectual a system could have been maintained for nearly half a century had the Board's medical officials been allowed their proper influence in its counsels is inconceivable.

On the Public Health side the account is more favourable to the Board. It received from every Medical Officer of Health in the land a weekly return of the number of cases of infectious disease notified to him, and supplied him with a weekly summary of notifiable diseases for the whole country.* It carried out a great deal of special medical inspection relating to epidemics, food adulteration, housing, etc., conducted or arranged for researches into matters of hygiene, and main-

* The notification of infectious diseases was instituted in 1889 by an Act which was extended in 1899.

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tained a pathological laboratory and the Government Lymph Establishment; and the Medical Officer's Annual Report contained much valuable information on sanitary subjects generally. But the *systematic* inspection of local sanitary administration which ought to have been instituted in 1871 was still to seek in 1919. Until Sir George Newman went to the Board to take part in the arrangements for its absorption in the Ministry of Health, the medical was still kept in strict subordination to the secretarial staff. What Sir Bertrand Dawson, in "The Nation's Welfare," justly calls the "baneful tradition" which debarred the Board's Medical Officer from advising the President except through the intermediary of a non-medical official still persisted. So almost until the very end the dead hand of the Poor Law Board kept its clutch upon the nation's chief Central Health Authority.

CHAPTER VI

Other Central Health Authorities

BESIDES the Local Government Board there were, at the beginning of the year 1919, no less than twenty Central Authorities engaged in the administration of Public Health legislation. In this and the next chapter I propose to give an account of such of these Authorities as are most important in a Public Health sense. We may first consider the Authority which, as we saw in Chapter IV., was for some years the principal organ of State Medicine in this country.

THE PRIVY COUNCIL

The Public Health responsibilities which were transferred from the Privy Council to the Local Government Board in 1872 did not include those relating to the constitution and discipline of the medical and pharmaceutical professions, nor those connected with the prevention of contagious diseases in animals, but the latter have since been assumed by the Board of Agriculture. The in-

The Privy Council

timate bearing upon Public Health of the status and regulation of the medical profession makes it desirable that something should be said of the legislation which the Privy Council has administered to that end.

Until the year 1858 the profession had no statutory constitution in the United Kingdom. As many as twenty-one corporate authorities, quite disconnected from each other, had the right to issue medical diplomas, and some of these bodies were much more interested in the fees they received than in the medical competence of the candidates they licensed. This situation, so full of danger to the community, so inimical to the interests of the profession, was greatly modified by the Act of 1858. That measure provided for the establishment of a Medical Register, by which the public and the Courts might distinguish between qualified and unqualified practitioners. It provided also for the creation of a Medical Council, charged with the duty of removing from the Register the names of practitioners convicted of crime or guilty of "infamous" professional conduct, and of impeaching before the Privy Council any licensing body which might grant its diploma without insisting upon adequate study and examination, and the Privy Council was invested with the power to deprive such a body of the right to hold qualifying examinations. The Act was amended by a later measure introduced by Sir

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Lyon (afterwards Lord) Playfair, in 1886, modifying the conditions under which diplomas could be granted, and altering the constitution of the Medical Council by adding to it a quota of members elected by the general vote of the profession, and a further amending Act was passed in 1905.

Such was the origin of the General Medical Council, as it is termed "for short," more formally the General Council of Medical Education and Registration of the United Kingdom, the body which supervises the education and maintains the discipline of a profession which, including those attached to the Services, now numbers some 43,000 members, of whom nearly 7,000 are resident in London. Of the thirty-eight members of the Council, fourteen are chosen by the Royal College of Physicians of London, the Royal College of Surgeons of England, the Apothecaries' Society of London, and the English Universities—one by each body; seven and six respectively by similar institutions in Scotland and Ireland; six are elected by the votes of registered medical practitioners, and five are nominated by the Privy Council. The General Medical Council is also responsible for the control of the Register of Dental Surgeons and the supervision of that profession. The body which, under the Privy Council, attends to the examination and registration of chemists in accordance with the terms of the Pharmacy Acts is the

The Privy Council

Pharmaceutical Society, which also advises the Privy Council as to the regulation of the sale of poisons.

It may be of interest to point out that the effect of medical registration is to confer the right to practise medicine, surgery, and midwifery in the United Kingdom and (subject to any local law) in any other part of the British Empire, and to recover fees by legal process. A qualified medical man may, however, if he pleases, practise without registration, which is in the nature of a privilege rather than of an obligation. If unregistered, he has no legal remedy should a patient prefer not to pay his fees, is ineligible for medical appointments in official and public institutions, and is liable to be sued for penalties by any medical or surgical corporation whose privileges he may infringe. Further, except as to one group of diseases, it is open to unqualified persons to engage in medical practice so long as they do not falsely pretend to hold specific diplomas. The one exception mentioned above relates to the treatment of venereal diseases (*see* p. 141). That the most ignorant charlatan should be free to undertake the treatment of equally serious diseases, such as cancer, or affections of that most delicate and complicated organ the ear, is a gross anomaly, of which the tragic results have been set out in a Report of the Privy Council on Unqualified Practice, issued in 1910. There is obvious need for further legislation

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to protect the public from the lures of cunning impostors.

Another Public Health duty devolving upon the Privy Council has also been performed indirectly, through the Central Midwives Board, constituted in 1902. The importance of the midwifery service of the country is not generally appreciated. The measure of its importance is the fact that of all the births in England and Wales—there were, in round numbers, 668,000 in 1917—*nearly three-fourths are attended by midwives*. A midwife, it should be understood, holds a much more responsible position than a maternity nurse. The latter can work only under medical supervision; the former is free to attend all cases of normal labour without a medical man. It is highly necessary, therefore, that she should be carefully trained, and that her competence should be authoritatively certified. This it is that the Central Midwives Board, nominated by the Royal Colleges of Physicians and Surgeons and other bodies, secures. It prescribes the course of training, holds the examinations which midwives must pass before they can be certificated, and, when they are certificated, inscribes them on the Roll, which now numbers some 44,000 names, although only about 13,500 midwives are actually practising. It lays down the rules as to antiseptics, etc., which they must observe, and cancels the certificates of those who disregard the rules or are guilty of misconduct. The Board is

Vital Statistics

gradually raising the standard of knowledge which midwives must acquire, and has recently added elementary physiology to the curriculum. But the midwifery service stands sorely in need of State aid, and the announcement made by the Central Board early in 1919 that it approved generally of the proposals to that end formulated by the Association for Promoting the Training and Supply of Midwives was welcomed by all who properly appreciate the situation.

THE GENERAL REGISTER OFFICE

The Registrar-General's Department, to give this Office its more usual name, conducts the registration of births, deaths, and marriages, and analyses the figures. It was established in 1836, twelve years before the creation of the General Board of Health, under an Act which for the first time made it possible for vital statistics to be compiled in this country. To the second head of the office, Major George Graham, who was appointed in 1842, must be given the credit of establishing the thoroughly efficient organisation, with its network of local offices, covering the whole country, by which the work is done. In 1839, at the instance, as Sir John Simon believed, of Edwin Chadwick, Dr. William Farr had been appointed Compiler of Abstracts, and had lost no time in bringing his remarkable powers of analysis and

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synthesis to bear upon the figures. To the first Annual Report of the Registrar-General, published in 1841, was appended a Letter addressed to him by Dr. Farr on the death statistics of the first half-year of civil registration and on various questions arising out of the records. Such was the origin of the annual studies in vital statistics which constitute what Simon truly designates "a new branch of medical literature." Presently quarterly returns, anticipatory of the Annual Reports, were issued, and in 1840 began the weekly returns giving the life and death figures for the metropolis. When Major Graham retired, in 1879, Dr. Farr was his natural successor; but those with whom the appointment rested had other views, and Dr. Farr resigned.

The member of the Department who now does the work of analysis is known as the Superintendent of Statistics, and the post is held by Dr. T. H. C. Stevenson, whose annual review of the whole body of statistics is a most illuminating document, which is absolutely indispensable to the student of Public Health. Technically the General Register Office became a branch of the Local Government Board in 1871, for it was one of the Departments which were absorbed by that Board at its creation. But the chief difference between the earlier and the later General Register Office was that after 1871 the Registrar-General addressed his Annual Reports to the President of

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the Local Government Board, instead of, as before, to the Home Secretary, and he and his staff have continued to have their headquarters at Somerset House.

THE HOME OFFICE

For the administration of the Factory and Workshops Acts, at once so comprehensive and so minute in their hygienic requirements, the Home Office is primarily responsible, as it also is for the regulation of dangerous trades and of coal mines and quarries, and for the execution of the Acts limiting the hours of young persons in shops. Moreover, the Prison Medical Service is under its control; it regulates the institutions established under the Mental Deficiency Act, 1913; and it appoints Medical Referees and Certifying Surgeons under the Workmen's Compensation Act, 1906. The Factory and Workshops Acts apply, in ordinary times, to some 123,000 factories and 154,000 workshops, employing from six to eight million people. That fact alone is an eloquent indication of the highly important place the Home Office holds among Central Health Authorities.

Some account must be given of the development of what is summarily called factory legislation, an expression which includes legislation relating to workshops. It may be well to explain at the outset that the distinction between a factory and a work-

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shop depends mainly upon the use of mechanical power. Works in which steam, water, or other mechanical power is used are factories; all others are workshops, with the exception of certain specified works, such as bleaching and dyeing works, earthenware works and lucifer match works, which are held to come under the denomination of factories.

This kind of legislation originated in 1802 with the Health and Morals of Apprentices Act, passed to afford some protection to pauper apprentices in cotton and woollen mills. It was introduced by Sir Robert Peel, who supported it by the ingenuous reason that there was gross mismanagement at the expense of pauper apprentices in his own factories and that, having no time to correct it himself, he was glad that the State should do the work for him. It limited the hours of the apprentices to twelve a day, decreed the gradual discontinuance of night work, made some stipulations for the ventilation and cleanliness of the buildings, and the observance of rudimentary decency in the sleeping arrangements of the poor little slaves. The administration of the Act was to be supervised by two inspectors appointed by justices of the peace from among themselves. In 1819, there having in the interval been a great influx into cotton factories of children who were not parish apprentices, Robert Owen, as is noted elsewhere (p. 6), prevailed upon the Government to pass an Act

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regulating all child labour in such factories. As watered down from the Bill promoted by Owen, it forbade the employment of children under the age of nine, and limited the hours of those under sixteen to twelve a day, and, contrary to Owen's wish, its application was confined to cotton factories. It was amended in 1825; but still nothing was done for child labour in other factories until, as the result of an agitation in which the chief actors were Richard Oastler, Michael Sadler, and Lord Ashley (afterwards Earl of Shaftesbury), the Act of 1833 was passed, applying to practically all textile factories. In such factories it now became unlawful to employ any child under nine, or to keep children between the ages of thirteen and eighteen at work for more than twelve hours a day or sixty-nine hours a week, or to put them to night work, and there were further restrictions of hours for children between nine and thirteen.

The Act of 1833 thus took a long step forward. But it is a still more salient landmark in factory legislation in that it committed the administration of the Act not to amateur inspectors but to paid itinerant inspectors appointed by the Government who were invested with full rights of entry and inquiry and with the power to frame such rules and issue such Orders as might be considered necessary, and were instructed to report twice a year and to confer together with a view to uniformity of action. This important departure, the

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germ of the elaborate inspectorial system of this branch of the Home Office, has been attributed to the influence of Edwin Chadwick, a member of the Parliamentary Commission upon whose recommendations the Act was founded. "The introduction," as Hutchins and Harrison remark,* "of an external authority, free from local bias and partiality, greatly improved the administration of the law, lessened the friction between manufacturers and operatives, and provided a medium of communication between the Government and the people at a time when knowledge of industrial matters was scanty in the extreme." The reports of the inspectors, these authors point out, constituted "an invaluable continuous record of industrial conditions by trained observers . . . whose business it was to renew their visits at stated periods and note what changes took place within their view."

The effect of this system of inspection is plainly to be traced in the Factory Act of 1844, which was to a great extent based upon suggestions made by the Inspectors. It made many alterations in detail to secure the more effectual carrying out of the Act of 1833. It provided for the safeguarding of machinery in the interests of children and young persons and women, and in other respects

* "A History of Factory Legislation," by B. L. Hutchins and A. Harrison (Mrs. F. H. Spencer), D.Sc. (Econ.). Second Edition. 1911.

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also brought women into the same category as young persons, it being even decreed that women, like young persons, must not work more than twelve hours a day. For this restriction of the labour of women, the cause of much searching of heart among orthodox political economists, a precedent had recently been created by an Act promoted by Lord Ashley excluding women of all ages, as well as young children, from mines. The Act of 1844 also introduced the half-time system for children, and as a counterpoise reduced the employable age to eight. Three years later, after a long and bitter struggle, a Ten Hours Bill was passed, restricting women and young persons to ten hours' work a day.

Gradually, between 1845 and 1861, the industries allied to textile manufactures were brought within the scope of factory legislation. During the sixties many distinctly non-textile industries were included, and factory legislation was extended to the whole country, so that it applied to small workshops no less than to mammoth mills. So wide was the net cast that even dwelling-houses and single rooms used as workplaces were caught within its meshes, though it was not until long afterwards that sanitary control of these domestic workshops began to be effective. In the 'seventies, and later, the regulations which sought to secure the health and safety of the workers were extended and made more stringent. In 1880, when Lord

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Morley published his *Life of Cobden*, he was able, in an eloquent sentence, to show how precise and far-reaching was the protection afforded to labour in both those directions. "Buildings," he wrote, "must be kept pure of effluvia; dangerous machinery must be fenced; children and young persons must not clean it while in motion; their hours are not only limited but fixed; continuous employment must not exceed a given number of hours, varying with the trade, but prescribed by the law in given cases; a statutable number of holidays is imposed; the children must go to school, and the employer must every week have a certificate to that effect; if an accident happens, notice must be sent to the proper authorities; special provisions are made for bakehouses, for lace-making, for collieries, and for a whole schedule of other special callings; for the due enforcement and vigilant supervision of this immense host of minute prescriptions there is an immense host of inspectors, certifying surgeons, and other authorities whose business it is to 'speed and post o'er land and ocean' in restless guardianship of every kind of labour, from that of the woman who plaits straw at her cottage door to the miner who descends into the bowels of the earth and the seaman who conveys the fruits and materials of universal industry to and fro between the remotest parts of the globe." *

* "The Life of Richard Cobden," i. 303.

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To-day the statutes under which above-ground industries are regulated are the Factory and Workshops Acts of 1901 and 1907. By these statutes the employment of children under twelve is forbidden. Above that age they may work for half-time, subject to conditions, but must attend school for the other half. Not until they become young persons* are they eligible for full employment. The hours of these young persons and of women are also limited, and holidays and restrictions as to continuous spells of work are prescribed for them as for children.† Now, too, it is illegal for a woman to return to work within four weeks after childbirth.

As an extension of the law regulating labour in domestic workshops, special control is now exercised over a multitude of kinds of home work defined by an Order issued by the Home Secretary in 1911. The employer has to send the names and addresses of all home workers to the inspecting authority, and if the dwellings are insanitary, or if infectious disease occurs, he is prohibited from giving out work to be done in them.

In the case of dangerous trades, such as those in which poisons are used, or in which there is

* The ages of "young persons" are 14-18; of "children," 12-14. "Women" are all females above the age of 18.

† The provisions relating to children and young persons, as is noted on p. 89, have been carried further by the Education Act of 1918, which, however, was not to come into full operation immediately.

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exposure to infections such as anthrax, the strictest precautions are enforced. Cases of anthrax are still reported from time to time; but phosphorus poisoning has almost disappeared since the use of white phosphorus in the making of lucifer matches was forbidden. The safeguarding of machinery has been the constant care of the Inspectors. Certain dangerous employments are closed to children and young persons; and machinery or plant or processes to which special risk attaches may be prohibited altogether. By an Act passed in 1909 the Legislature has even made a beginning with the regulation of wages in sweated industries. That Act is administered not by the Home Office but by the Board of Trade, and is primarily economic in motive, though not without a distinct relation to Public Health.

The Employment of Children Act, 1903, may be noticed here, although it is applicable to multitudes of children who are not employed in factories. It enables the local authorities to make by-laws controlling the labour of children under fourteen who do not come under the Factory Acts, and of boys and girls under sixteen who are engaged in street trading. No child may be employed in night work, or in carrying heavy weights, or in occupations otherwise injurious, nor may any child under the age of eleven be put to street trading. In so far as these provisions apply to children in factories and workshops they are supervised by

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the Home Office Inspectors; in other cases by the local authorities. By the great Education Act of 1918 certain of these provisions are modified in the right direction. The employment of children under the age of twelve is disallowed; the hours of labour of those between twelve and fourteen are restricted; until the age of fourteen is attained no child may be employed in factories, workshops, mines, or in street trading, and, on a report from the School Medical Officer, the local education authority may modify or prohibit altogether the employment of a child on grounds of health.

During the War it was found necessary to relax certain of the time-regulations in factories and workshops. On the other hand, special measures were instituted not merely to protect the health but also to promote the well-being of factory workers, so enormously augmented in number to meet the call for munitions. In 1915 the Home Office and the Ministry of Munitions co-operated in the appointment of the Health of Munition Workers Committee to promote these objects. The Committee conducted investigations into such questions as that of fatigue and made recommendations of permanent value, and in its Final Report, on Industrial Health and Efficiency, published in 1918, it lays down the great principle that "the subject of industrial efficiency in relation to health and fatigue is in a large degree one of preventive medicine, a question of physiology and psycho-

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logy, of sociology and industrial hygiene." Under the powers of an Act passed in 1916 the Home Office has issued Orders for the institution and enforcement of what are known as "welfare conditions." The Chief Inspector of Factories reports that the desirability of having competent supervisors for this work is increasingly recognised, and special courses of training for these posts have been started in many large industrial centres after conferences at the Home Office with high educational authorities. So the work of humanising industry and of raising the hygienic standard in factories and workshops takes a great leap forward as a direct result of the War.

While the legislation described in this section is administered primarily by the Home Office, through its large staff of expert Factory Inspectors, which since 1893 has included women Inspectors, as it ought to have done long before, the local sanitary authorities are responsible for the sanitation of workshops (and also, in some details, of factories), of bakehouses, and of dwellings in which home workers are employed. But even in workshops and workplaces there are certain sanitary requirements which are enforced by the Factory Inspectors. The local sanitary authorities were first charged with this duty in the 'sixties, when all workshops were brought within the scope of factory legislation, it being obviously impossible for the multitude of workshops in the country

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to be inspected by the officers of the Central Authority. At first the experiment was a failure, and after a few years the local authorities were relieved of a duty they were unwilling to discharge. The staff of the Home Office was greatly strengthened, but it was still impossible for the Inspectors to get through the immense mass of work confronting them, and by the Factory Act of 1891 workshops were brought under the Public Health Acts and the sanitary authorities and their officers were invested with the same powers as Factory Inspectors. In the larger towns and in London boroughs the local authorities have appointed special inspectors of workshops, women as well as men, but in many smaller areas they have not risen to their responsibilities, and it cannot be claimed for the system of local inspection that it has been more than a partial success.* It has, however, to be accepted as inevitable. There has certainly been no fault on the part of the Home Office. Its Factory Inspectors, distributed among the great industrial centres, have on the whole done their work zealously and efficiently, and to them must be allotted no small share of the credit for the successive extensions of factory legislation. For twenty-one years, until 1917, the post of Chief Inspector of Factories and Workshops was held with distinction by Sir Arthur Whitelegge,

* For a judicial discussion of the question, see Hutchins and Harrison, *ibid.*, Chap. xi.

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K.C.B., who began his Public Health career as Medical Officer of Health for Nottingham, and was afterwards County Medical Officer of Health for the West Riding of Yorkshire. To him succeeded the Deputy Chief Inspector, Mr. H. M. Robinson, I.S.O.

CHAPTER VII

Other Central Health Authorities

(Concluded)

THE BOARD OF EDUCATION

THE School Medical Service administered by the Board of Education through the local education authorities is the most successful development of the Public Health system which this generation has witnessed—and even that, perhaps, is saying too little. It was foreshadowed some sixty years ago by the prescience of Edwin Chadwick, who advocated not merely sanitary surroundings for school children, but medical inspection and physical training. In connection with the Education Commission of 1861 he wrote that “a special sanitary service applicable to schools is needed, for the correction of the common evils of their construction and the protection of the health of children therein.” The construction of schools has been carefully supervised for many years, but it was not until the passing of the Education (Administrative Provisions) Act in 1907 that a systematic effort for “the protection of the health of children

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therein," in the large sense, was made by the organisation of a Service to carry out the medical inspection of all elementary school children and correct the physical defects thus discovered. This country may, however, plume itself upon the fact that if it did not originate this great movement, it was the first to erect the framework of a *national* School Medical Service.

The system which the Medical Department of the Board has carried out is comprehensive and many-sided. It provides in the first place for the medical inspection of the child by the School Medical Officer, which must be done during the first year of school life, again between the ages of eight and nine, and a third time towards the end of the school period. Children whose health is found to be defective are referred to a private practitioner, or receive treatment in a school clinic, or in a hospital with which the local education authority* has a working arrangement, or in centres for dealing with physical deformity, while those who suffer from the grosser infirmities, the blind, the deaf, the dumb, the feeble-minded, the epileptic, and also the tuberculous, are relegated to special schools. The best school clinics, such as those in Sheffield, Birmingham, and Bradford, are divided into seven departments, according to the treatment needed. Of the special schools,

* The constitution of local education authorities is described on p. 116.

School Medical Service

the most novel are those which provide open-air education for children who are dull and backward, anæmic and debilitated, ill-nourished and stunted. The climate of this country is not too propitious to this kind of education, but by securing that the children are kept warm and dry and are well fed it has been carried out to a much greater extent than might have been thought possible. Classes are held in the school playgrounds, or in public parks or open spaces, or schools and class-rooms are specially constructed so as to assume an open-air character; children are taken for weekly or fortnightly excursions to rural or seaside places; there are sanatorium schools for the tuberculous, and residential schools for children who have some chronic ailment that needs a prolonged sojourn in a healthy environment, or for whom no open-air school is available.

Medical inspection is now in practice not only in all elementary schools, but also in many secondary schools, both those established by the local education authorities and those under the jurisdiction of Boards of Governors. In many of these higher schools the inspection is on the same lines as in primary schools, in others it is much more perfunctory. The War, by diverting so many medical men to military service, compelled a suspension or modification of inspection in some secondary schools, but the check was only temporary, and in the future, under the Education Act

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of 1918, efficient medical inspection and treatment will be provided by the local education authorities in all their own secondary schools, and ultimately, no doubt, in all other schools of this grade.

By a logical extension, School Hygiene has for some years included the feeding of hungry children. This office, as hygienic as it is humane, the local education authorities were authorised to perform by the Education (Provision of Meals) Act, 1906, which leaves much to the discretion of the individual authority. Thus it may provide meals itself, or may contract for their provision, or may assist a voluntary committee which undertakes the duty. Again, it may provide the meals free of charge, or may require payment from parents or guardians. Under an amending Act passed in 1914 it may even provide meals during holidays or on days when the schools are not open, and may take action without obtaining the sanction of the Board of Education. The powers conferred by these Acts have been most used in the county boroughs, of which, up to the end of 1917, 68 out of 82 had provided meals; next in the roll of honour come the urban districts—32 out of 48. The counties lag miserably in the rear, only 15 out of 62 having exercised the privilege, and only one having attempted to provide food for all the necessitous children in its area. This is a matter which the nation must see to in the immediate future.

School Medical Service

The measures by which the School Medical Service seeks to remedy uncleanness are the systematic inspection of children in their homes by school nurses, the carrying out of compulsory cleansing where parents refuse to do their duty, and the institution of proceedings against defaulters. The problem is one of great difficulty, and the probability is, as Sir George Newman believes, that little is to be hoped from further legislation or penalisation, and that the solution is to be found rather in the co-ordinated action of the School Medical Service, of the public nursing and home visiting service, and of the school attendance officers, so that moral pressure may be brought to bear upon parents and a love of cleanliness instilled into children.

Another feature of School Hygiene is physical education. In all Elementary Training Colleges a course of physical training is now compulsory for teachers of both sexes, but this kind of education is not left entirely to the ordinary staff, for, in spite of war difficulties, some forty local education authorities have appointed trained teachers of gymnastics in response to the offer of the Board of Education to bear 50 per cent. of the cost. The local education authorities are expected to provide facilities for games, and to see that sports are sufficiently varied, and they are now being urged to have simple forms of dancing taught—a most admirable kind of physical education. Evening

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Play Centres which are recognised by the Board have been formed by voluntary effort in some fifty areas. Many of the education authorities now furnish facilities for instruction in swimming—an acquirement which ought to be regarded as indispensable for every boy and girl; and under the Education Act of 1918 they can provide holiday or school camps.

The Board of Education concerns itself with the health of school children not only directly but also indirectly, by recognising and subsidising schools for mothers, where they are taught simple hygiene and mothercraft. Lessons in mothercraft are also given to the elder girls in elementary schools, as well as in secondary and continuation schools. Grants, too, are made to day nurseries.

The personnel of the School Medical Service includes School Medical Officers of both sexes, private practitioners who undertake work in the school clinics or apart from them by arrangement with the education authorities, and school nurses. But the Service elicits the co-operation of the teachers, and also of the school attendance officers, and it avails itself gladly of the help of Children's Care Committees and of other voluntary agencies. In no branch of Public Health has voluntary effort been turned to better account than in the School Medical Service.

This admirable Service completed its first decennium in 1917, and some figures denoting the

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progress it has made appear in Sir George Newman's Report for that year. In spite of the disturbing influence of the War, it is a story of splendid achievement. A national system, operative in some measure in all the 318 education areas of England and Wales, and in all the 21,000 public elementary schools, as well as in many of the schools of higher grade, it is more universal in scale than can be found in any other country. In 1915, before the War had levied its toll upon the personnel, every local education authority in the land had its school medical staff, and there were 855 School Medical Officers and Assistant School Medical Officers engaged in the routine work of inspection and treatment, while 455 were doing ophthalmic, aural, dental, and other specialist work, a total of 1,300. In the same year the staff of school nurses numbered 1,500, appointed in 291 out of the 318 education areas. In 1917, 231 local education authorities had provided between them 512 school clinics, and 95 had made financial arrangements with hospitals; 151 had established a school dental service, comprising 300 dental clinics and 200 school dentists. There were 413 special schools of the kind mentioned on p. 94, accommodating upwards of 31,000 children. Finally, meals for necessitous children were provided in 150 education areas with a population of three-and-a-half million school children.

Truly a cheering record. But while much has

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been done, much still remains to be done. It is estimated, for example, that of the multitudes of children found by medical inspection to be defective in health, only 60 per cent. are receiving treatment. To give but one other instance, while more than 31,000 children are being educated in special institutions adapted to their infirmities, in two of these groups alone accommodation is needed for an additional 40,000 children. Much more, therefore, must be done before the powers available are fully exercised. By the Education Act of 1918, which raises the age for full-time school attendance to fourteen, and makes attendance at a free continuation school, or the utilisation of equivalent educational opportunities, obligatory up to the age of eighteen, besides insisting upon medical inspection and treatment in such schools, further opportunities of developing this Service have been opened up. By the time it has completed its second decennium the first will perhaps be looked back upon as the day of small things. So may it be!

THE NATIONAL INSURANCE COMMISSIONERS

The National Insurance Act of 1911, amended in 1913 and again in 1917, has been administered centrally by separate National Insurance Commissions for England, Wales, Scotland, and Ireland, with a co-ordinating Joint Committee on which the Chairmen of the four Commissions have seats.

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The Commissions, provided with staffs of Medical Officers and Inspectors, have controlled the work of the County and County Borough Insurance Committees and of the Approved Societies (*see* p. 104), which between them do the detailed work of administration. The Commissions appear to have been constituted on the principle of giving representation to the more or less divergent interests involved in the National Insurance scheme—the Friendly Societies, the Insurance Offices, the British Medical Association, the insured persons, the Treasury, and so forth. In a perfect world the Commissioners might have been chosen solely for their ability and determination to make this great departure subserve the ends of Preventive Medicine, but in the actual circumstances, with interests to conciliate whose conflicting claims had almost wrecked the scheme in its translation into law, it is difficult to see how Parliament could have acted otherwise than as it did. However this may be, one must allow that while National Health Insurance has done much for Public Health by vastly increasing the facilities for prompt and early medical treatment, and by the work of the Medical Research Committee, it has been more concerned with palliative than with preventive medicine.

The Medical Research Committee comprises men of proved capacity for the investigation of hygienic and pathological problems. The National Medical Research Fund, amounting to £60,000 a

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year, is divided between work done in the Committee's Central Research Department and work which it commits to the laboratories of universities and medical schools, of general and special hospitals, etc. During the few years of its existence the Committee has done or organised a considerable amount of research bearing upon very diverse aspects of the nation's health. Tuberculosis in the adult, rickets in the child, disabling diseases of the heart and nervous system, the purity of the milk supply, industrial diseases—these are among the subjects it has explored. When the War came it at once began to grapple with many urgent problems presented by battlefield and camp. It took control of the Army Medical statistics, and has accumulated the material for a medical history of the War. It has investigated many pathological questions relating to new war diseases, such as trench fever and trench foot, as well as to gas-poisoning and gas-gangrene, cerebro-spinal fever and paratyphoid fever, functional nervous maladies, and the best methods of antisepsis. It has also given much thought to the health of the munition worker, and discovered how such dangers as that of trinitrotoluene poisoning may be combated. "Future years alone," as Sir George Newman says in his Memorandum on Medical Education in England, "can prove the strength and soundness of the foundations now being laid, but there is every indication that both foundations and super-

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structure will be entirely creditable to the foresight of the promoters of this scheme for the application of the scientific method."

The National Insurance Act is one of the greatest Public Health measures ever inscribed upon the statute roll. It makes insurance against sickness compulsory upon all employed persons between the ages of sixteen and seventy who are earning not more than £160 a year, and anyone under the age of sixty-five working on his own account whose income falls within that limit may insure himself voluntarily. In the case of employed persons the contributions entitling them to the benefits bestowed by the Act are payable by themselves, their employers, and the State, and the State also bears the entire cost of central administration. The benefits, which are kept free of all suggestion of Poor Law relief, fall under five heads: (1) Medical treatment by a doctor selected by the insured person from a "panel" in his district, with medicine and certain specified surgical appliances; * (2) a money allowance during sickness; (3) a money allowance during disablement up to the age of seventy, when the insured person becomes eligible for an old-age pension; (4) treatment in a sanatorium or dispensary or other institution in cases of tuberculosis; and (5) for women who are insured, or whose husbands are insured, a maternity benefit of 30s. on the birth of a child, even if the insured woman

* In Ireland these "medical benefits" are not provided.

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is unmarried. Additional benefits, such as dental treatment, or medical treatment for the dependents of insured persons, are payable out of the surplus funds of Approved Societies. Under the Act of 1917 medical and sanatorium benefits are available for discharged soldiers and sailors who are uninsured.

An Approved Society is a friendly society, insurance office, trade union, or other organisation which is authorised by the Insurance Commissioners to receive contributions and distribute sickness benefits, etc. Insured persons who are not accepted by or do not elect to join an Approved Society are known as deposit contributors, and their benefits are administered by the Insurance Committee for the county or county borough to which they belong, composed of nominees of the County or County Borough Council and of the Insurance Commissioners, representatives of the doctors, etc. The Insurance Committees also administer all medical and sanatorium benefits, as well for the members of Approved Societies as for the deposit contributors.

Not the least valuable feature of the National Insurance Act is the provision it makes for the treatment of tuberculosis. It is the duty of the Insurance Committees to make arrangements to the satisfaction of the Commissioners for the provision of sanatoria and other institutions for the reception of tuberculous patients, and the Finance

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Act of 1911 allocated a sum of £1,500,000 for the purpose, divided between the four parts of the United Kingdom according to their respective populations. When the War broke out many schemes for institutional treatment had been framed by the Committees and approved, but the limitation of capital expenditure which had then to be imposed and the difficulties of obtaining supplies of material and labour have seriously impeded such enterprises. Institutional accommodation is still very far from adequate, and it will probably be years before the nation's needs in this direction are fully supplied.

The functions of the principal Central Health Authorities have now been briefly sketched. It is not necessary to enumerate all the rest, but the Board of Agriculture watches over the purity of milk, butter, and cheese, supervises margarine factories, and takes steps to control contagious diseases in animals; the Board of Trade fulfils very important health functions at our ports, the Ministry of Pensions cares for the health of disabled soldiers, the Colonial Office wages war upon tropical diseases, the Board of Customs regulates the sale of patent medicines and proprietary foods, the Board of Control is responsible for the inspection of lunatic asylums, etc., and the Treasury keeps a jealous eye on the expenditure upon sanatoria and medical benefits under the

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Insurance Acts. During the War, Public Health work has been undertaken by the Ministry of Munitions, the Ministry of Food, the Central Control (Liquor Traffic) Board, and the Ministry of Reconstruction. Had there been one Central Health Authority, capable of indefinite expansion as the need arose, instead of one-and-twenty, there would have been no occasion for these temporary Departments to complicate their gigantic tasks with the consideration of health problems. That, in spite of this multiplicity of Central Health Authorities, our Public Health service as a whole should have attained so high a standard of efficiency is to be explained largely by the national genius for practical affairs—a genius which has enabled us to avert the worst effects of administrative confusion—and by the devoted service of the great army of voluntary workers.

CHAPTER VIII

Local Health Authorities

It may be well to begin this chapter with a recapitulation of facts concerning the creation of the organs of local health administration. By the Public Health Act of 1848, the nation's first Health Charter, the General Board of Health was empowered, on petition of the ratepayers, or without such petition where there was an average death-rate as high as 23 per thousand, to set up Local Boards to provide for elementary sanitary requirements (p. 30). In 1866 was passed the Act which declared it to be the *duty* of local sanitary authorities to conduct sanitary inspection and provide a water supply, and gave the Home Secretary power to perform these offices at the charges of such authorities as neglected them (p. 46). More important, however, than either of these measures was the Public Health Act of 1872 (p. 53), which for the first time applied sanitary law to the rural parts of the country. It divided the whole country into urban and rural sanitary districts. In urban districts the sanitary authorities were on the one hand to be

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the Town Councils of municipal boroughs, and on the other hand the Local Boards of Health or the Improvement Commissions which had been called into existence in non-municipal towns; in the rural districts the Boards of Guardians took over from vestries the whole business of sanitary administration. In 1888 came the Act which, by creating County Councils, revolutionised rural government, and this was followed in 1894 by the Act which established Urban and Rural District Councils throughout the country, and also, by setting up Parish Councils, revived the parish as the unit of local self-government. The Urban District Councils replaced the Local Boards of Health and Improvement Commissions which had administered sanitary law in non-municipal boroughs, while in municipal boroughs the Town Councils were to exercise their sanitary powers as Urban District Councils; the Rural District Councils took over the sanitary duties of Boards of Guardians, which, however, were still left with some important Public Health responsibilities in addition to their work under the Poor Law.

The area of a County Council, styled an administrative county, is usually identical with that of a geographical county; but certain large counties—Yorkshire, Lincolnshire, Suffolk, and Sussex—have two or three County Councils, and the Isle of Ely, the Soke of Peterborough, the Isle of Wight, and the metropolis have each a County

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Council. The sanitary powers of County Councils are of a general character, relating mainly to the establishment of hospitals for infectious diseases, the provision of facilities for the treatment of tuberculosis and venereal diseases, the prevention of river pollution, the administration of the Contagious Diseases (Animals) Act, and the analysis of foods, drugs, and fertilisers. They are also responsible for the supervision of midwives, and for the initiation and execution of maternity and child-welfare schemes. They make by-laws, have some powers of supervision over Urban and Rural District Councils, may bring pressure to bear upon such of them as are slack in the performance of their duties, and may report them to the Central Health Authority. On the other hand, their writs, so to speak, do not run in county boroughs (towns with a population of not less than 50,000 or with sheriffs and special judiciary powers), and only partially in municipal boroughs. At first County Councils were not compelled to appoint County Medical Officers of Health; since 1909 this has been obligatory. They must also appoint County Analysts, and many of them have added to their staffs Sanitary Inspectors (Inspectors of Nuisances).

County Borough Councils and Municipal Borough Councils (Town Councils) exercise all the multifarious sanitary functions of an Urban District Council, as described in the next paragraph. In addition, they are invested with the powers

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reserved from Urban District Councils in favour of County Councils, except that in the smaller boroughs the Acts relating to the contagious diseases of animals and the sale of food and drugs are operated by the county authority.

Urban and Rural District Councils exercise all sanitary functions except those mentioned as reserved to County Councils. They are responsible for the inspection and abatement of nuisances, for drainage, sewerage, and the removal and disposal of refuse, for the inspection of food and the provision of a water supply, for the inspection of common lodging-houses, dairies, cowsheds, and milkshops, workshops and workplaces, laundries and bakehouses, for the regulation of new buildings, for town planning and housing, for the isolation of infectious disease, disinfection, and the provision of hospitals, mortuaries, cemeteries and crematoria, as well as of open spaces. In addition to all these duties, incident upon Urban and Rural District Councils alike, Urban District Councils regulate slaughter-houses and offensive trades, see to the cleansing and scavenging of streets, and provide baths and washhouses under Acts which are of the adoptive class. Upon both Urban and District Councils the appointment of Medical Officers of Health and Sanitary Inspectors is obligatory. In some areas women are now rendering valuable service as Sanitary Inspectors or Assistant Sanitary Inspectors. This innovation

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began with the appointment of women by the Kensington Borough Council to inspect laundries under the Factories and Workshops Acts. Every Borough Council in London now has one or more women Sanitary Inspectors, and similar appointments have been made in many of the larger provincial towns, but in the smaller urban and rural districts women are seldom appointed to this office. They are also doing excellent work as Health Visitors and Tuberculosis Visitors, as Inspectors of Midwives, and as Tuberculosis Dispensary Nurses and School Nurses.

Rural parishes may, or must, according to the population, elect a Parish Council; but parishes may be united, divided, or altered by the County Councils and the Central Authority. The Parish Council has limited powers as to water supply and nuisance prevention, and right of complaint against the Rural District Council. This latter authority may delegate to a Parish Council certain of its powers.

Boards of Guardians, first established in 1834, are only separately elected in urban unions or in the rural portions of mixed unions; in a rural union the Rural District Councillors represent their parishes on the Board. Each Board must appoint one or more Medical Officers to attend the sick poor. We saw in a previous chapter (p. 71) that even the more conservative Majority Report of the Poor Law Commission (1909) recommended the

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abolition of these Boards, and this recommendation has been confirmed by the Local Government Committee of the Ministry of Reconstruction. Their disappearance will involve the assumption by some other authority of two duties that have no connection with the relief of the poor : (1) The appointment of registrars of births, deaths, and marriages; and (2) the execution of the Vaccination Acts and the appointment of vaccination officers. Vaccination, of which the origin has already been related (p. 21), was provided gratuitously in 1840, was made compulsory in 1854, and has been carried out by paid vaccination officers from the time of the pandemic of 1871. But in 1898 the stringency of the law began to be relaxed in favour of conscientious objectors, and now a parent or guardian has only to make a statutory declaration to the vaccination officer to secure exemption for a child. In 1912 not more than half of the children born in England and Wales were being vaccinated, and now the proportion is probably less, perhaps much less. I shall return to this subject later (p. 129).

The same Act (1872) which divided England and Wales into urban and rural sanitary districts provided for the formation of Port Sanitary Authorities to guard against the introduction of infectious disease from abroad. The whole of the coast line and the shores of navigable rivers are included either in a port sanitary district or a riparian sanitary district, and each authority must

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appoint a Medical Officer of Health and a Sanitary Inspector, and must, either singly or in combination with similar authorities, provide an isolation hospital and make separate provision for smallpox. It has been noted (p. 47) that the old system of "constructive infection," by which vessels arriving from an infected port, although they themselves had a clean bill of health, were subject to detention, was condemned by Sir John Simon in 1865. From that time the opinion gained ground among English sanitarians that the maintenance of a high standard of sanitation in our ports, and in the country generally, was the best safeguard against the introduction of infections from abroad. Gradually the old quarantine law, based upon the Quarantine Act of 1825, fell into disuse, and the last vestige of it was repealed by the Public Health Act of 1896. Other nations were less ready to adopt the principle that the treatment of a ship should be determined by the health of the persons on board and not by the health of the port of departure, but most of them have now fallen into line. Suspected ships must bring up at a boarding station, where they are visited by the Port Medical Officer of Health, and either classed as healthy and given release, or, if infectious disease is discovered, sent to a mooring station for thorough disinfection; the patients are removed to an isolation hospital, but "contacts" are only required to give the addresses to which they are

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proceeding, so that they may be kept under surveillance until the incubation period is past; those, however, who are regarded as specially dangerous are kept under scrutiny in observation shelters or elsewhere until the situation is cleared up. The system, while it places no unnecessary restrictions on the movements of "contacts" or on import trade, has, as Dr. Bruce Low claims, been eminently successful. "Notwithstanding Britain's great trade, by shipping, with infected ports, it has so far escaped the development, to any extent, of epidemics which have ravaged other countries that have placed their reliance on the more restrictive methods based upon quarantine."*

The Public Health administration of London has been reserved for separate treatment, for it differs in some respects from that of any other city. The City of London proper, over which the Lord Mayor rules, maintains its independence of the rest of the metropolis. It is represented on the London County Council, but the City Corporation, through its Health Department, which has superseded the City Commission of Sewers, does its own sanitary work, though it has no separate main drainage. It is also the sanitary authority for the Port of London, which extends from Teddington to the mouth of the Thames. Outside the City the units of the system are the twenty-eight

* Appendix 13 to the Forty-seventh Annual Report of the Local Government Board, 1917-18.

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Borough Councils, whose powers are somewhat less extensive than those of provincial Town Councils, being limited by the control exercised by the London County Council and the Local Government Board. The Borough Councils date from 1899, when they superseded the vestries and district boards (p. 38). The London County Council was created ten years earlier, to replace the less directly representative Metropolitan Board of Works, which had been the principal organ of local government since 1855. The greatest of all the County Councils has very extensive sanitary powers, of which it has made vigorous use under the inspiration of Sir Shirley Murphy, the former Medical Officer of Health, and of Dr. W. H. Hamer, his successor. It can compel the Borough Councils to perform certain duties under the Public Health (London) Act, 1891, has appellate jurisdiction as between the Borough Councils and aggrieved private persons, makes sanitary by-laws, is the main drainage authority for the whole metropolis, and generally discharges the sanitary duties devolving upon County Councils. But it has nothing to do with the water supply, which is in the hands of the Metropolitan Water Board, nor with the prevention of river pollution, which is undertaken by the Thames Conservancy Commission, nor with the provision of isolation hospitals, for which the Metropolitan Asylums Board is responsible. This latter Board, constituted in

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1867, is a highly anomalous authority, for while its funds are derived from the poor-rates and it is composed largely of representatives of Boards of Guardians, it is treated, both legislatively and administratively, as a Public Health and not as a Poor Law body, and no civic disability is incurred by those who enter its institutions. This Board, it may be added, is what is known as a joint authority, and there are many similar joint Boards in the provinces for the provision of isolation hospitals and other purposes.

In these pages it is impossible to define more minutely the relations existing between the many local authorities that have been summarily described, or to enter into the details of local health administration.* It must, however, be said that much of the work of these bodies, and especially of the County Councils, is done by Committees, which may or may not include others than members of the authorities. One example is furnished by the local education authorities. These consist of the County and County Borough Councils and (for elementary education only) the Councils of the larger boroughs and urban districts. Each of these bodies appoints an Education Committee, which directs the School Medical Service and does all the work of educational administration, but has no power to raise rates or borrow money. In-

* For such information see Bannington's "English Public Health Administration."

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insurance Committees, again, are composed largely of nominees of County or County Borough Councils, with representatives of other interests (*see* p. 104).

As provision for the health of the people has been extended, the bodies responsible for administering it locally have multiplied, until now, in the words of Sir George Newman, "in each town and village of the country there are some eight or ten governing bodies concerned with Public Health."* The result is much overlapping on the one hand and the existence of gaps on the other hand, with no lack of opportunities for friction. These defects are met with, not in connection with the suppression of nuisances but in the arrangements for the treatment of disease. As Bannington points out, there are districts in which members of the same household may be "undergoing treatment in the institutions or at the hands of the Sanitary Authority, the Guardians of the Poor, the Education Committee, the Insurance Committee, and some one or more of the Voluntary Hospitals and Nursing Associations. On the other hand, there are districts where, unless a person is destitute or insured, there is practically no treatment provided." How this chaotic state of things might be remedied will be considered in a later chapter (p. 151).

* "Memorandum on Medical Education in England," 1918.

CHAPTER IX

Bacteriology and Infection

THE development of the Public Health organisation of this country in its various branches, central and local, has now been traced from its beginnings down to the point at which it takes a new departure in the creation of a Ministry of Health. Before that subject is considered it is appropriate that some account should be given of the light that has been shed upon the nature of those infective diseases which it is a main object of the Public Health Service to suppress, or at any rate to keep in check. That and the problems which it presents will be the theme of the present chapter, while the next chapter will be concerned with certain infections which, until quite recently, have been ignored by Public Health administration and are invested by the circumstances of the times with a peculiar importance.

When the nation received its first Health Charter, in 1848, the essential cause of infective disease was as great a mystery as it had been in the days of Hippocrates, the Father of Medicine. That there was some relation between such diseases

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and bad sanitation was obvious, but beyond that nothing was known. The clue was furnished in the years 1850-60 by Pasteur's brilliant researches into putrefaction and fermentation, which triumphantly proved that those processes were entirely due to the action of minute forms of life. Now, the process of infectious disease is a form of fermentation, and Pasteur was quick to see the bearing upon it of his great generalisation. "The etiology of infectious disease," he wrote, "is on the eve of having unsuspected light thrown upon it."

Speedily was the prediction fulfilled. Convinced that the suppuration which had been the customary sequel of surgical operations up to that time was due to micro-organisms with a bent for mischief, Lister, by a long series of patient investigations and ingenious experiments, devised means to destroy these pathogenic germs *in situ*, and thus stone by stone built up the edifice of antiseptic surgery. In the year in which Pasteur began his epoch-making researches Davaine had observed the presence of rod-like organisms in the blood of animals dead of anthrax, but had failed to appreciate its significance. Now its meaning was clear to him, and soon he discovered by experiment that only blood which contained those organisms was capable of communicating the disease. There could be little doubt, therefore, though the evidence fell short of demonstration, that this bacterium was the cause of anthrax. It was the

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first to be causally associated with a disease, and it owes its primacy to the facts that, tiny as it is, it is a giant compared with most bacteria, and that it is easy of artificial cultivation. It can boast a stature of $\frac{1}{5000}$ of an inch, whereas some other bacilli measure only $\frac{1}{25000}$ of an inch, and others even less. The micro-organism of glanders was identified by Löffler and Schütz in 1862, that of leprosy by Hansen in 1872, that of gonorrhœa by Neisser in 1879. The virus of typhoid was the next important germ to be isolated, by Eberth and Gaffky. In 1882 Koch convicted the tubercle bacillus, and in 1883 the bacillus of cholera. About the same time Klebs and Löffler proved the case against the bacillus of diphtheria; and since then a verdict of guilty has been returned against the germs of epidemic pneumonia, cerebro-spinal fever, tetanus, and plague.

All these germs are bacteria—that is, they belong to the lowest group of organisms, consisting of but a single cell, in the vegetable kingdom. But there are others, known as protozoa, which, as the name implies, belong to the lowest group of organisms in the animal kingdom. Such are the hæmamoeba of malaria, discovered by Laveran in 1880, the spirochætes of relapsing fever, of syphilis, and of yaws—a disease somewhat akin to syphilis prevailing in certain warm climates—and the trypanosome of the long-drawn-out disease of which sleeping sickness is the terminal stage; and analogy

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suggests, as Sir Patrick Manson has pointed out, that the germ of yellow fever, when discovered, will prove to be a protozoon. Dysentery requires three different kinds of germs—a protozoon, a bacterium, and a microscopic worm—to account for all the evil it does.

Some pathogenic germs need an intermediate host to enable them to fulfil the maleficent law of their being. Thus the germ of malaria passes through some of its phases in certain species of mosquito, and can only be transmitted to man by the bite of one of those insects, and only when the germ has arrived at a particular stage of its evolution. The germ of yellow fever can only be communicated by the bite of other species of mosquitoes. The spirochæte of relapsing fever is transmitted by the bites of ticks, lice, and other insects; the germs of typhus fever and trench fever by lice; the trypanosome by the bite of the tse-tse fly; the bacillus of plague by the bites of fleas that have first bitten plague-infected rats. The germs of most of the infective fevers, however, are independent of the good offices of intermediaries. Some of them are conveyed by the breath, and the germs of one group of these fevers can be carried for some distance by currents of air. Others are conveyed by exhalations from or by particles of the skin, by the secretions of the mouth or the excretions of the body, by milk, water, or food, by infected articles of clothing, or by infected or simply con-

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taminated flies, while some, such as the germs of venereal diseases, are communicated by physical contact, direct or indirect, and are therefore called contagious diseases.

In the above enumeration of germs that have been identified with particular diseases, those of smallpox, measles, typhus fever, and whooping-cough do not appear. The reason is that they have not yet been discovered, and the presumption is that they are too minute to be revealed by the highest powers of the microscope. It is probably not without significance that in these diseases, or most of them, the infection is air-borne. Sir Archdall Reid* regards this air-borne character as indicating an extreme degree of minuteness, and he suggests that these organisms may never be discovered because they may be beyond the powers of devisable microscopes. That, of course, is only a speculation, which may presently be disproved; but it was published so long ago as the year 1896, and although bacteriological technique has made advances since that time, it has not yet been negatived. The micro-organism of scarlet fever ought probably to be added to the list of undiscovered germs, for although several bacteria have been accused, none of them has been convicted by the general verdict of bacteriologists. The germ of epidemic influenza, again, has not yet been conclusively identified, if indeed that protean disease

* "The Present Evolution of Man." 1896.

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is due to a single germ. Nor has the micro-organism of rabies (hydrophobia) been "caught," although it clearly does not belong to the air-borne group.

It may not be without interest to explain in untechnical language the conditions that have to be fulfilled before it can be demonstrated that a micro-organism is specific to a particular disease. They were formulated long ago by Koch, to whose ingenuity bacteriological technique is under the greatest obligation. In the first place, the organism must be present in the blood or tissues in every case of a given disease. In the second place, it must be grown in pure culture—that is, free from admixture with other organisms—on an artificial medium, such as agar, for successive generations. This separation of the germ from all others is what is meant by *isolation*, and it is obviously a crucial part of the identification, for it seldom happens that only one kind of organism is present in a case of disease, and unless the suspected virus is separated from its associates its responsibility cannot, of course, be brought home to it. In the third place, inoculation of a susceptible animal with the last of the successive cultivations must reproduce the disease. Finally, from every animal so inoculated the same germ must be recovered, distributed in the same way, and capable of again reproducing the disease. These are what are known as "Koch's postulates."

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In some diseases—those, for instance, to which the lower animals are insusceptible—they are not all fulfilled, but none the less the proof may be sufficient, although not carried to the point of demonstration.

The discovery of the germ origin of infective disease has led to the preparation of vaccines and serums which are used both preventively and remedially. These forms of treatment are based upon the beautiful but very complex theory of immunity, of which a simple exposition may here be attempted.

There is, to begin with, a *natural* immunity to infectious disease, and this natural immunity may be either racial or individual. Thus, man is immune to swine fever, and the lower animals are immune to leprosy. These are instances of *racial* immunity. To give an example of *individual* immunity: two persons are exposed to the same amount of infection, say of scarlet fever, and while one "takes" the infection, the other escapes it, being immune—it may be only temporarily—to that disease.

So much for natural immunity. *Acquired* immunity may be the result of a previous attack of a disease, or may be induced artificially by inoculation with the causal germ or its poisons. In both cases alike the system is stimulated to the production of substances antagonistic to the disease, known as antibodies. This is the *active*

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form of acquired immunity, and it is so called because a person who acquires immunity in either of these ways, that is, by a previous attack or by inoculation, creates his own antibodies. In the *passive* form of acquired immunity the work is done for him—that is to say, the antibodies are furnished by the serum of animals that have been actively immunised by inoculation with the germ or its poisons, and he is injected with these antibodies in order that they may reinforce his own defensive powers. An example of passive immunity is that resulting from the use of diphtheria antitoxin, consisting of serum from the blood of horses that have been inoculated with the poisons of the diphtheria bacillus so that they may create antibodies for the benefit of human sufferers.

The substances used to produce active immunity are called *vaccines*, and the process by which they are introduced into the system is known as vaccination or inoculation. The substances by which passive immunity is effected are called *serums* or *antitoxins*. An antitoxin is really a serum, but, as the name implies, it is efficacious only against the poisons of a germ, while other serums are capable of destroying the germs themselves. The latter, therefore, are *bactericidal* serums, while antitoxins are *antitoxic* serums.

Long before the theory of immunity was elaborated, vaccination was practised as a measure of prevention against smallpox, as already related

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(p. 21). That was a purely empirical procedure, and no further progress was made in the direction of vaccinal prophylaxis until infectious disease was proved to be of microbic origin. The life-history and toxins of pathogenic organisms and the reactions to which they give rise in the body were now studied, vaccination was placed upon a rational basis, and one after another the vaccines and serums so extensively used against infectious disease were prepared. Vaccines have won their most brilliant triumphs in the prevention of small-pox, typhoid fever, and rabies, but they have some degree of preventive efficacy also in plague and in cholera. As to serum treatment, its value in diphtheria is great beyond calculation, and its employment against tetanus during the War was the means of saving multitudes of wounded soldiers from the attacks of that terrible disease. It is successful also in the bacillary form of dysentery, and it is the most efficacious treatment yet devised for cerebro-spinal meningitis.

Enough has, perhaps, been said to suggest the invaluable results which have flown from the discovery of the microbic nature of infectious disease, both preventively and remedially. But there is still much to be learnt in connection with infectious disease. The problem is one of extreme intricacy. The causal organisms are only one of its factors. They are often spoken of as the *seed*. There is also the soil—the human body in which the seed

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is sown—to be taken into account. And further, there is the *environment*, by which both seed and soil are influenced. Each of these factors is complex in a high degree; it is not surprising, therefore, that there should be many things in the behaviour of infectious disease that are not easy of elucidation. Why outbreaks should occur at periodic intervals; how far they are determined by seasonal or telluric influence; why at times epidemics should spread over so large a part of the globe as to become pandemic; why epidemics of the same disease should vary in severity; why even the same epidemic should be mild at one stage and severe at another; why certain infections have diminished both in severity and in prevalence, and others in severity but not in prevalence—these are some of the phenomena that require explanation.

One deduction yielded by the history of infectious disease is that pathogenic bacteria, like other forms of life, both vegetable and animal, undergo evolutionary variations in response to changes of environment. Experimental bacteriology has proved that their virulence can be attenuated by passing them through the bodies of more resistant animals, and that they are materially affected by temperature, by light, by oxygen, by chemical action, and by food—that is, the medium on which they are grown. It is antecedently probable, therefore, that they are modified both in

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virulence and in activity under the varying conditions of nature. Hence it is, presumably, that epidemics of the same disease vary in severity, and that the same epidemic may exhibit a rise or fall in severity at different stages. This evolutionary modification is the most likely explanation, also, of the disappearance of leprosy from this and other Western countries where it was once endemic, and of the decline in the severity of diseases so unlike each other as scarlet fever and syphilis. With a rising prevalence, scarlet fever is now usually of so mild a type as to be less fatal than measles or whooping-cough; the decline in the average severity of syphilis during the last half-century is unquestionable. The complete disappearance of typhus fever from the southern and midland parts of this country is predominantly due, no doubt, to improved sanitary conditions, for this is pre-eminently a filth disease. But even here there may have been an evolutionary change in the germ, for it is communicated by lice, and it is difficult to believe that there are not enough filthy and lice-infested people congregated in the poorer parts of London, for example, to keep the disease going, if the micro-organism had not lost some of its activity.

The lessened virulence of smallpox, again, though partly explained by the effect of vaccination, may be due also to evolutionary modification of the virus. Vaccination begins to lose its protective efficacy after a few years, and a large

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proportion of the population are never re-vaccinated; some other influence, therefore, would appear to have contributed to this decline in virulence. There has been a remarkable diminution also in the *prevalence* of smallpox. That vaccination, supplemented by improved sanitation, is the chief factor in the reduction of smallpox to the status of a rare disease I do not doubt, but this can hardly be the full explanation. Since the stringency of the vaccination laws was relaxed, enormous numbers of children have escaped vaccination altogether (*see* p. 112), yet the formidable epidemics which it was confidently predicted would avenge the concession have not arrived. I cannot, however, agree with those who suggest that vaccination has done its work as a measure of routine prophylaxis and may now be reserved for the protection of those who are exposed to infection during an epidemic. Until we have had a much more prolonged experience of the effect of allowing a large part of the community to avoid vaccination, the prudent course, in my opinion, is to urge upon the public the propriety of accepting the protection which it undoubtedly affords.

If there is ground for believing that pathogenic germs are the subjects of pronounced evolutionary change, it is still less open to doubt that, with exposure during many generations to infectious disease, their human host has been undergoing an evolution against it. What other hypothesis so

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well explains the facts that diseases which infect a comparatively small proportion of a race that has long been exposed to their attacks run like wildfire through a race unaccustomed to them, and that diseases—measles, for example—which usually have a slight mortality-rate in a community habituated to them will decimate a people that offers to them a virgin soil? In the very able work already cited, Sir Archdall Reid shows with great detail that the invasion of the New World by the infectious diseases of the Old World in the train of conquerors, colonists, missionaries, and traders is the reason why so many races of the Western Hemisphere and the Antipodes have died out or are fast dying out. The Caribs and Tasmanians and other races have vanished entirely; the Red Indians, the Polynesians, the Australians, and the Maories are far on the road to extinction. The facts are not to be accounted for by the mere effect of contact between civilised and savage modes of life. If that were so, savage tribes of the Old World would perish as they come into touch with civilisation. But perish they do not, and the reason is that they have not to encounter unfamiliar infections. To complete the proof, it is found that such Europeans as have not been exposed to malarial infection contract that disease in a malarial region more readily and in severer forms than do the natives.

The principle to which these facts point is that

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the resistive power of a race to an infectious disease is proportionate to its familiarity with that disease. The immunity evolved is not of the acquired kind, but is natural, innate, and therefore transmissible from one generation to another. It is an example, in fact, of Natural Selection. A person born with a complete immunity to a disease escapes it altogether and transmits the immunity to his offspring; if the immunity is less complete he may contract the disease in a mild form and, surviving, transmit his partial immunity; whereas those who start with no natural immunity tend to succumb to the disease, or if they survive they transmit the susceptibility. So, as the generations pass, those who are non-immune tend to die out, and those who are immune—the “fittest”—tend to survive.

The fall in the death-rate of tuberculosis in this and other civilised countries may be an example of acquired as distinct from natural immunity, associated with variation in the bacillus. Improved hygiene and open-air treatment and the dispensary system cannot have been without some influence, but alone they do not account for the facts. The fall in this country began about the middle of the last century, some thirty years before the modern methods of combating tuberculosis were initiated, and it is shared by countries where those methods are little practised. The theory that it is largely due to acquired immunity originated with Metch-

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nikoff. It is founded mainly upon the facts that a vast majority of children who are subjected to the tuberculin test are proved by it to be tuberculous though the disease is inactive, and that in post-mortem examinations of those who have died from other causes healed lesions of tuberculosis are found in all but a small proportion of cases. Metchnikoff's view is that most children are attacked by attenuated strains of the tubercle bacillus, that their natural powers of resistance enable them to repel the attack, and that the antibodies evoked in the process confer upon them a measure of immunity against further attacks. The theory, though not generally accepted, accords with the general doctrine of immunity, and may be provisionally adopted.

We have now considered some aspects of two of the factors of the problem of infectious disease, the microbe and the man. The third factor, environment, is a many-sided one, which includes, as Sir George Newman has pointed out in his Memorandum on Medical Education, "the conditions and customs of society, peace or war, food or famine, the prevalence or otherwise of disease, the physical and climatic conditions, dryness or moisture, prevailing winds or autumnal temperature, urban or rural life, healthy or unhealthy occupation." It is with environment that Public Health activities are chiefly concerned. The evolution of the human race against infectious disease,

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and the variation of pathogenic germs, are processes of Nature, which for the most part are independent of man's voluntary action. Over environment, however, he has a large measure of control. And no bacteriological ritual will compensate for failure to provide the community with a healthy environment.

In the early days of bacteriology some sanitarians were slow to appreciate the rôle of pathogenic organisms. More recently the pendulum has sometimes swung too far to the other side, and Sir William Collins is not without justification for the epigrammatic warnings he has administered from time to time against the danger of underrating "the potency of filth and removable conditions as factors in disease production and propagation." * Which is the more important—that cows should be kept in clean cowsheds and be free from disease, and that scrupulous cleanliness should characterise the whole process of dairying, or that infected milk should be sterilised? That water should be drawn from pure sources, or that reliance should be placed wholly on filtration and purification? That water and food should be uncontaminated by the typhoid virus, or that the effects of the pollution should be counteracted by anti-typhoid inoculation? If in the social code cleanliness comes next to godliness, in the sanitary

* See, for example, "The Man versus the Microbe," *Journal of the Royal Sanitary Institute*, xxiii. 335.

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code it comes next to nothing. It is the first and greatest of the commandments. The final cause of sanitary effort is the *prevention* of disease. It is not enough that disease should receive prompt treatment when it occurs, whether by serums or by other methods. It is not enough, even, that its propagation should be checked by isolation and notification and disinfection. What the sanitarian has to keep steadily in mind is that the *occurrence* of disease has to be prevented, not merely by prophylactic vaccination, which as yet has but a limited sphere of usefulness, but still more by furnishing man with a favourable environment—fresh air, abundant sunlight, pure water, wholesome and sufficient food, good housing, well-ventilated workshops, and so at once shielding him from the attacks of his invisible foes and strengthening his powers of resistance. *The vigour of his own life*, as Dr. Farr long ago declared, is his best security against the invasion of pathogenic germs.

CHAPTER X

The Crusade against Venereal Disease

THE diseases which Public Health administration so long refused to recognise (p. 118) are syphilis and gonorrhœa. Until the year 1916 the British public was aware neither of their extensive prevalence nor of their gravity. Explicit reference to them in the Press or in books intended for general reading was considered improper. The nation had, in fact, entered into a conspiracy of silence which, though unavowed and more or less unconscious, was highly effectual in giving unchecked course to diseases which were reacting most perniciously upon its well-being and efficiency. From time to time warning notes were sounded by the medical profession and by sociologists, but little heed was given to them. Towards the end of 1913, however, as the result of emphatic medical representations which had behind them the authority of the International Congress of Medicine, held in London in the summer of that year, the Government appointed a Royal Commission to explore the whole subject. The Report of the Commission, issued early in 1916, set out the facts in language which all could understand. The country was

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startled to find that in large towns at least 10 per cent. of the inhabitants were estimated to be infected with syphilis, and a far larger proportion with gonorrhœa. It learnt with dismay that while syphilis was one of the most incapacitating and life-destroying of diseases, and was the sole cause of the incurable general paralysis of the insane from which 15 per cent. of the male patients in the asylums of great towns suffer, there was good reason for holding gonorrhœa responsible for one-fourth of all the blindness in the land; that while syphilis is transmissible to children and is a most frequent cause of miscarriage and stillbirth, gonorrhœa is accountable for 50 per cent. of all the sterility of women, besides sometimes causing sterility in men; and that these diseases are also the cause of many other serious and disabling affections, such as deafness, degeneration of the arteries, inflammations of internal organs, and mental and nervous disorders. It was made clear also that, so far from syphilis and gonorrhœa being confined to those who violate the law of sexual morality, they claim between them a great multitude of innocent victims—the children who are born syphilitic or to whom gonorrhœal ophthalmia is communicated in the act of or shortly after birth, wives who are infected by unfaithful husbands, husbands who are infected by unfaithful wives, and midwives, nurses, and surgeons who have to manipulate syphilitic patients.

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For such facts as these the Royal Commissioners demanded the widest publicity. They called upon parents, school teachers, voluntary associations, and the Press to engage in a campaign of enlightenment. And they propounded a bold and far-reaching administrative scheme by which sufferers from these diseases might be cured and rendered non-infective. It was based upon the principle of rendering the necessarily costly means of diagnosis and treatment available, free of charge, to all. It assumed that, venereal disease once acquired, whether innocently or guiltily, it is both the duty and the interest of the State to see that it is promptly and effectually treated, so that the patient may cease to be a source of infection, may not be incapacitated from taking his due part in the nation's work, and may not become a charge upon the public funds. The Government was therefore advised to urge the local authorities to provide centres for gratuitous diagnosis and treatment throughout the land and to charge 75 per cent. of the cost to the Exchequer, the remaining 25 per cent. to fall upon the local rates.

More than a year before the Royal Commission reported, the National Council for Combating Venereal Diseases, embracing many leaders of the medical profession, representatives of the Churches and of educational, social, and philanthropic organisations, had been formed, under the presidency of Sir Thomas Barlow; and when the

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Commission was dissolved, seven of its members joined the Council, while Lord Sydenham, the distinguished Chairman of the Commission, accepted nomination as President. Thus reinforced, the Council took up the task of educating the country and bringing to bear upon the Government whatever salutary pressure might be needed. A few weeks after the publication of the Report it sent a deputation to the then President of the Local Government Board, Mr. Walter Long, who informed it that the Government had decided to adopt the plan recommended by the Royal Commission, and that the Board was preparing to invite the local authorities to submit for approval schemes for carrying it out. The invitations were promptly issued, many of the local authorities made quick response, and by this time there are few areas in which some provision has not been made for combating these diseases.

In most of the more populous areas, where there are general hospitals, the schemes are in active operation, though on far too small a scale; but in areas with a scattered population a much larger number of treatment centres must be provided. The need for them has been rendered more acute by demobilisation. In the past the rural parts of the kingdom have been comparatively free from venereal disease, but with the return to them of tens of thousands of men after long service with the colours, it is to be feared that this will be so

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no longer. Most important is it, therefore, that in rural areas no less than in the large towns ample facilities should be provided for the treatment of men who leave the Army uncured of venereal disease. For the rural folk of this country to be infected venereally on a considerable scale would be one of the most lamentable by-effects of the War. Armageddon has had some reactions which were not definitely foreseen, but of this danger, at any rate, the nation has had abundant warning, and it will be little to the credit of the local authorities if the measures so persistently pressed upon their attention are neglected.

The activities of the National Council are so much in evidence that they need be only briefly described. It has brought unceasing pressure to bear upon such local authorities as were apathetic. It has offered wise guidance upon the difficult and delicate questions that have demanded consideration, and has steadily discouraged developments which, by ignoring the moral aspects of venereal disease, would have estranged the sympathies of many who are rendering most valuable service.*

* The thorniest of these questions is that between prophylaxis and early preventive treatment. There are those who hold that what are called "prophylactic outfits" should be supplied to any who wish to have them, so that as soon as exposure to infection has taken place self-disinfection may be practised. This policy is strongly opposed by others as tending to the encouragement of immorality. In their view, public authorities are not justified in doing more than providing the means of

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It trains lecturers to diffuse accurate knowledge of this subject among both civilians and soldiers. For the latter it has made special efforts, and in order that they may have full warning of the dangers of venereal disease it has drawn up a Syllabus which has been adopted by the War Office. Many hundreds of lectures have been given to some two millions of soldiers, and vigorous action has been taken to lessen the dangers accompanying demobilisation. Suitable courses of lectures have been organised for teachers, so that they may be qualified to give judicious warning to boys and girls as they leave school. Conferences to this end have been held with all the principal authorities in the educational sphere, and it is hoped that the time will soon come when no boy or girl will go out into the world ignorant of the sexual perils that have to be encountered. Nurses, again, are instructed as to the precautions they must take to avoid the accidental infection to which their work exposes them. Besides its lecturing operations, the Council is carrying out a strenuous propaganda by the printed word. It issues authoritative books

disinfection at venereal clinics, and urging that those who have succumbed to temptation should at once repair to such a clinic and receive early preventive treatment, i.e. be disinfected. The National Council discountenances prophylaxis while strenuously advocating the provision of the fullest facilities for early preventive treatment. A reversal of this policy, by affronting the moral feeling of the country and antagonising the Churches, would, in my opinion, be disastrous.

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and pamphlets on a large scale, and, the more effectually to reach the masses, it displays posters in suitable places and inserts arresting advertisements in the newspapers. Local branches of the Council, each of them a centre of activity, have been formed in many parts of Great Britain, and Central Councils have been or are being formed in the Dominions and in India. The National Council is recognised by the Government, and works in consultation with it, and the income provided by subscriptions and donations is supplemented by grants from the public purse.

In the crusade against venereal diseases legislation has come to the help of administration. When the schemes of the local authorities were first started there was nothing to prevent unqualified persons from undertaking the treatment of syphilis or gonorrhœa and advocating their so-called remedies broadcast. Such unauthorised treatment has been carried out on a very large scale, not only by herbalists and other quacks, but also by many chemists, who from their training might have been expected to know better. The result is that in many instances syphilis is never detected in its early stages, these persons being unable to employ the highly technical diagnostic tests now available. Even when it is detected the treatment, as a rule, is ludicrously ineffectual, for the injection of salvarsan is a procedure which no unskilled person dare attempt. When at last the

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development of serious symptoms forces the patient to seek qualified advice, the disease has reached a stage at which effectual treatment is very difficult and in many cases impossible. Thus not only is the chance of cure missed, but the patient remains infective—a centre of danger to others. In "The Nation's Health" I ventured to express the opinion that if Parliament should make the unauthorised treatment of venereal disease a penal offence, the measure would probably commend itself to the common sense of a community which, having to find the money for the policy that had just been inaugurated, had the right to demand that nothing should be tolerated which militated against its success. The prediction was fulfilled sooner than I expected. In May, 1917, the Venereal Disease Act was passed, prohibiting under penalty the advertising of venereal remedies, and making it illegal, in any area in which a treatment scheme has been brought into operation by the local authorities, for an unqualified person to treat or prescribe for venereal diseases. Unauthorised treatment is still, however, extensively practised in secrecy, in spite of the prohibition, and unremitting vigilance will be required if it is to be completely suppressed.

Although this movement has been successful beyond the anticipations of the most sanguine, the victory is far from having been won. Both legislatively and administratively there is much still to be done. With measures directed against women

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alone I have no sympathy, and the National Council has offered determined opposition to all such suggestions. But it ought not to be impossible to make penal the crime of wilfully communicating venereal disease, whether committed by women or by men. In the future, also, though not perhaps until the nation has been further educated to understand the grave effects of these diseases and the ease with which they can be communicated by patients who have not been cured, Parliament may decide to compel those who have accepted treatment to continue it until they have ceased to be infective, which at present many fail to do. As for administration, the facilities for treatment, and especially for "early preventive treatment"—that is, treatment after exposure to infection but before the appearance of symptoms—must be greatly extended. Vastly more must be done, too, to prevent congenital syphilis by provision for the treatment of infected expectant mothers. Finally, the educational activities of the National Council must be redoubled. This work of enlightenment will have to be prosecuted in perpetuity. Even when legislation and administration have done their utmost to suppress venereal diseases, there will still be need of such a body as the National Council to go on spreading the light, to see that the law is not evaded, and to ensure that there is no lowering of the administrative standard.

CHAPTER XI

The Ministry of Health

IN the first eight chapters of this book the evolution of our Public Health system has been traced from its humble beginnings; but even as the words were being written a measure was going through Parliament by which a Ministry of Health has been created to supersede the Local Government Board and other Central Health authorities. That measure, long advocated by the leaders of the medical profession, was greeted with almost universal acclaim. Seldom, indeed, has so vast an administrative change aroused so little antagonism. Opposition there has been, but it was an opposition limited to official circles and modestly shunning notoriety. So far as public opinion is concerned, the need for a Ministry of Health has been treated as a self-evident proposition.

Is it, then, to be said that our Public Health Service, as it existed when the Ministry of Health Bill was introduced, had been a huge failure? Before that view could be substantiated, it would be necessary to explain away certain rather for-

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midable facts. Thus, the infant-mortality rate, which in 1867 was 153 per thousand births, had fallen in 1917 to 96 per thousand births. Again, comparing the death-rate at different ages from all causes in 1871-80 and in 1911-15, we find that there has been at all ages up to 45 a reduction of from 42 to 50 per cent., and a substantial reduction also at every later age-period. Moreover, if the English Life-table of 1871-80 is compared with that of 1910-12 there is seen to have been an increase in the average expectation of life of ten years for males and of nearly eleven years for females. During the latter period the deaths *each year* were 234,955 fewer than they would have been had the death-rates of the former period prevailed, and the persons whose lives were thus saved each year had the expectation, with the Life-table experience of 1910-12, of living in the aggregate an *additional* 9,612,600 years. Further, of the more than a quarter of a million lives saved each year, 64 per cent. are attributable to a lessened mortality from those infectious diseases against which Public Health activities are so largely directed.* For the reasons set out in Chapter IX., this lessened mortality from infectious diseases must not be put entirely to the credit of Public Health operations. But that it is largely due to them, though it transcends the wit of man to fix the precise proportion,

* For equally significant figures, *see* Section I. of the Forty-seventh Annual Report of the Local Government Board, 1917-18.

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is questioned by no one. And it is the more remarkable because all the time that these results have been accruing the nation has been developing in the direction of urbanisation, which presents conditions so favourable to the diffusion of infection. Is it not obvious that if, with this ever-increasing aggregation of people in large towns, there had not been a sanitary service of reasonable and growing efficiency, the mortality tables would have told a very different tale?

If, instead of bringing our Public Health Service to the test of such statistics as those cited, we compare it with the sanitary services of other civilised nations, must we speak with bated breath and whispering humbleness? That suggestion has indeed been made by one whose words command the widest publicity. In a speech delivered in the autumn of 1918 Mr. Lloyd George doubted whether there was any first-class country in the world where "less had been done" in the way of "intelligent organisation of the forces which have special charge of the health of the nation—national, municipal, and medical," than in this country. Having had some opportunities of observing the Public Health arrangements of most European countries, as well as of the United States and Canada, I make bold to say that that utterance, guarded as it was in form, was hasty and ill inspired. That it provoked so little challenge is a flagrant example of our national foible of

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belittling ourselves. It did, however, elicit a protest, as dignified as it was cogent, from a distinguished epidemiologist who, with no official predilections to bias his judgment, has had almost unrivalled opportunities of systematically investigating the Public Health systems of other lands, and has for many years been a diligent student of the world's Public Health laws and official literature. With these incontestable claims to authority, Dr. Arthur Shadwell asserted* that there was no country in the world, first-class or other, in which so much had been done for the intelligent organisation of Public Health as in this. If, he declared, the general level of achievement all round be compared, and like be compared with like, the English standard, as distinct from the standard of Ireland and parts of Scotland, is "immeasurably above that of other countries, and very far above that of most of them." "England," he added, "is the great pioneer of health and sanitation; all the cardinal discoveries and measures originated here, and for a long time England stood alone in their application. Other countries have been coming up, with all the advantages of maturer knowledge and a virgin field, and have here and there surpassed us; but to-day the Public Health system and service in England are still the most complete and efficient in the world."

* In a letter to *The Times*, September 18, 1918.

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That declaration I unhesitatingly endorse. It is especially true of factory regulation and of the School Medical Service, as is pointed out in earlier chapters, but it is also true of our sanitation in general. We have seen that the Local Government Board was so started upon its career as to have missed precious opportunities and taken some wrong turnings; but we have seen also how much has been done by its medical staff, within the limits unfortunately prescribed to it, to advance sanitary science, both pure and applied. And of our Public Health Service as a whole, both central and local, the true view is not that it has failed to do great things, but that if it had been properly co-ordinated years ago, and if the sanitary expert had been allowed a freer hand, it would have done far greater things. That is the case for the creation of a Ministry of Health.

The provisions of the Ministry of Health Act, which was piloted through the House of Commons by Dr. Addison as last President of the Local Government Board, may now be briefly outlined. To the new Ministry are assigned the powers and duties of the Local Government Board, of the Insurance Commissioners of England and of Wales, and of the Lords of the Privy Council under the Midwives Acts. It relieves the Board of Education of responsibility (1) for the medical inspection and treatment of school children and young persons, and (2) for the care of the health

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of expectant and nursing mothers and of children under five; but in view of the practical difficulties of an immediate transfer of the first of those responsibilities, the Ministry is authorised to delegate them for the present to the Board. The Ministry is also charged with the supervision, under Part I. of the Children Act, 1908, of infant life protection, hitherto exercised by the Home Secretary. But the Medical Research Committee appointed by the Insurance Commissioners (p. 101) is transferred not to the Ministry of Health but to the Privy Council. In the Standing Committee to which the Bill was referred it was urged that the Research Committee should come under the Ministry's control; but on behalf of the Government it was maintained that as the Ministry was to have jurisdiction in England and Wales only, the result would be that medical research would be narrowed in scope, whereas under the Privy Council it would be able to develop not merely on national but on Imperial lines. It was pointed out also that the Ministry of Health would be responsible in the future for the research work hitherto carried out by the Local Government Board; and words were inserted in the Bill expressly including the initiation and direction of research among its duties. The plan of the Government was not further challenged. I confess I regard it with some misgiving, as involving duality where unity might have been attained;

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but it will be for time to show how the system works.

The most considerable branch of Public Health work withheld from the Ministry is that relating to labour in factories and workshops, mines and shops, which for the time being remains with the Home Office. Lord Haldane's Machinery of Government Committee recommended that these responsibilities should be allocated to the Minister of Labour, and the same view is taken by the Association of Certifying Factory Surgeons, which lays stress upon the service the Labour Exchanges could render in securing for young people employment suited to their physical condition. On this and all similar questions the country will look to the Ministry of Health for guidance. The Act confers wide powers for the transference to it of health responsibilities in the future. The powers and duties of the Minister of Pensions with respect to the health of disabled officers and men, and those of the Home Secretary relating to lunacy and mental deficiency, are specifically mentioned, but, in the words of the statute, "any powers and duties in England and Wales of any Government Department which appear to His Majesty to relate to matters affecting or incidental to the health of the people" may be transferred, simply by Order in Council, and it is to be assumed that these powers will be exercised with no undue loss of time. On the other hand, by the same process

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the Ministry can disembarrass itself of functions not relating to health, and it is expressly stated to be the intention of the Act that, when the law governing the relief of the poor undergoes revision, everything connected with poor relief which is not concerned with health is to be handed over to other Departments.

Another power exercisable by Order in Council is that of establishing Consultative Councils for giving advice and assistance to the Minister of Health, and it is stipulated that every such Council shall include women as well as men, and shall be constituted of persons having practical experience of the matters referred to these bodies. Thus the Ministry will be able to avail itself as freely as it pleases of the special knowledge of members of the medical profession and other hygienic and sanitary experts.

In Wales the Act is to be administered, under the direction of the Minister of Health, by a Board of Health appointed by him. As introduced into the House of Commons, the measure had no reference to Ireland, but under pressure from Irish members a clause was introduced constituting the Chief Secretary Minister of Health for that part of the United Kingdom, and imposing upon him duties similar to those devolving upon the Minister of Health for England and Wales.

One of the tasks confronting the new Ministry is that of working out a scheme for co-ordinating

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local health administration. In a careful discussion of this question Dr. Brend* recommends the formation of a local health council for each district, to absorb the health duties of all the existing authorities, to control the Medical Officer of Health, the sanitary inspectors, the tuberculosis officers and health visitors, etc., to organise a medical service for the treatment and care of the sick, to take over municipal hospitals, sanatoria, Poor Law infirmaries, school clinics and all similar institutions, and, where it may seem desirable, to make such arrangements with voluntary hospitals as would be mutually acceptable. Generally, this conception of the functions of the local health authority of the future seems to me sound and sufficient, and I am especially in agreement with it in its suggestion for the utilisation of voluntary hospitals without depriving them of their independence. My faith in voluntary effort debars me from sympathising with schemes for nationalising or municipalising these institutions, which on their present basis have long done and are still doing a work so valuable that it should save them from such revolutionary handling. On one point, however, I find it difficult to agree with Dr. Brend. To confide duties so considerable and so important as those enumerated to an authority not directly elected by the ratepayers would seem to be a proceeding of dubious wisdom. A body which would

* "Health and the State," Chapter XI.

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have the spending of so large a part of the proceeds of local taxation ought surely to be directly representative of those who have to find the money.

Other tasks which lie before the Ministry of Health are the initiation of a systematic inspection of the work of local health authorities; the codification of sanitary law, which, by the multiplication of statutes and departmental regulations, etc., during a long course of years, has once more come to stand in urgent need of simplification; the systematisation and study of Public Health statistics, which at present are almost incredibly chaotic and incomplete; the energetic prosecution of research work; the adoption of far more stringent measures to protect the public from impure and adulterated food and milk; the prompt and more vigorous execution of the Housing and Town Planning Acts; the development of the midwifery and nursing services; and the promotion of work for the benefit of expectant and nursing mothers, of infants and young children, and of school children and "young persons," so that the fullest use may be made of the beneficent powers conferred by the Maternity and Child Welfare Act of 1918 and the Education Act of the same year.

The new Ministry begins its work under conditions peculiarly favourable. Recent advances in health legislation, now well ahead of health administration, present it with magnificent oppor-

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tunities of service. That spirit of humanity which from the beginning has been the mainspring of Public Health effort was never so mighty as it is to-day, nor were voluntary health workers ever so numerous. The country is rapidly coming to a sense of the supreme importance of health as the pre-requisite of national prosperity and well-being. As sanitary knowledge becomes more widely diffused it will not suffice merely to make ample provision of skilled treatment and nursing for the sick. The ideal of the *prevention* of disease, the ultimate aim of Public Health activities, will emerge into greater and greater salience. The nation's fan is in its hand; conditions inimical to health will one after the other be swept away, and it will not rest content until all "old shapes of foul disease" have been exorcised and England has become as healthy as she is free.

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